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S MOHAN and B M GUPTA

Relevance and Quality of Indian Science

SANJAY L MAHAJAN

Whither our Research Priorities in Teacher Education

VANDAN MOHOD and VEENA V MOHOD

Crisis in Higher Education : Causes and Remedies

K V KANNAN

Value-added Education

V R IYER and P G GOPALAKRISHNAN

Role of the Chancellor in Higher Education

V N RAJASEKHARAN PILLAI

Quality Science Education

–Convocation Address

Association of Indian Universities

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Haldia
May 8, 2003

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Relevance and Quality of Indian Science

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A considerable discussion is going on regarding the decline in Indian science, both in qualitative and quantitative terms, mainly in terms of papers published and covered in the science citation index. The impression has sought to be created, especially in the context of the much-vaunted liberalization, that Indian science is hopelessly incompetent and delivers very little in terms of quality output. While this is incorrect, the concern is definitely warranted. The facts of the decline seem to be incontrovertible. The decline has been found to be both in qualitative and quantitative terms. For instance, a study has found that India has slipped from the eighth position in 1980 to the fifteenth in 2000 in terms of the number of research papers cited in the international science citation index. In 1980, India had accounted for 14,983 papers, which came down to 12,127 papers in 2000. During the same period, China, on the contrary, had moved up from 924 papers to 22,061 papers and South Korea from 175 papers, to 12,013 (Arunachalam-2002). However, it must be noted that while in the year 1980, there were 36 Indian scientific journals included in science citation index, in year the 2000 there were only 10 (Gupta and Garg).

Ironically, this decline in scientific productivity coincides with enhanced inputs into scientific research; while the number of universities in the country had doubled and the expenditure on research and development had gone up from a mere Rs 760.5 crore in 1980 to about Rs 13,000 crore by 2000, an increase of several times in real terms after adjusting for inflation (The Hindu-2002). Also, there has been over the years a lack of enthusiasm among young students for higher studies in science and careers in scientific research, large scale migration of science students from India to other countries, or shifts from science career options to others, resulting into non-availability of specialized and trained manpower in the fields of science and technology. Such a trend, if not arrested at this stage, may result in serious shortages of good quality teachers and research scientists. Partly in response, the government has promised (in the new Technology Policy Statement 2003) an increase in the resources devoted to research and development, to 2% of GNP. But a full discussion on the causes of this perceived decline is still lacking. The main concern should be to ensure that Indian science is actually addressing the right national concerns and focusing on the priorities identified by national agencies. Unless this is done, increasing allocations to research and development may not achieve anything tangible.

The contribution of science in a developing country has to be seen in a larger context than merely in terms of publications in international journals or citations received by them. The concern should be to see to what extent science contributes in accelerating growth, removing poverty and ensuring significant improvement in the living standards of our people. In almost all developing countries, most of the contributions towards research funds come from the public exchequer. Hence the public has to be assured of visible returns from this investment. Thus, the question of quality is inseparable from the question of accountability, which has to be seen in a framework of indexable achievement levels. Scientific accountability in research has to address the concerns of the following: (i) The public sector agency that funds the research, and through it the nation at large; (ii) The members of the public, who might be impacted by the developments produced and in general the ethical or environmental consequences of the research, and (iii) The scientific community itself, in terms of the quality of the research and the scrupulous honesty that it demands. Scientific research in a developing country must ensure that it makes positive contributions to the development process of the country. It is not to be expected that the multifaceted demands of this nature could be handled without conflict or compromise.

Significant achievements have been made in various fields of science and technology over the years in India. The efforts have primarily been directed at promotion of basic research and scientific excellence by creating sophisticated infrastructural facilities in research and academic institutions. The same cannot be said of technology programs, which appear to be distinctly sub-optimal. Although some technology spin-offs have taken place, final commercialization and large-scale use of indigenous technology are yet to attain the desired threshold level. In fact, most of the research programs are yet to be demand-driven, so that their expertise could be utilized for improving the quality and productivity of goods and services generated.

In India, the main players, the research and development system and the industrial enterprises, have not really joined hands with the common objectives of national development. The domestic research and development system, mainly public funded government owned institutions, has thus far done well in strategic and non-competitive areas of research and development, and technology development such as aerospace, atomic energy and agriculture, but its impact on commercially oriented industry and services sector has been minimal. Till now, the domestic research and development system and in-house research and development units in industry have inward-looking approach, but the advent of globalisation is compelling both of them to establish a dialogue and work together for mutual advantage. As a result, both these players are slowly becoming market driven, and there has been increasing consciousness of intellectual property rights related issues also.

In areas of applied research, continuing interaction and feedback with the user is the only way by which needs may be properly met. The blame for the lack of utilization of developed indigenous research/ technology research by the user agencies has been unfairly put on the Indian research and development system. It is true that prototype development, troubleshooting and ongoing commitment to problem solving are the responsibility of the technology developer, but the commitment to carry the results forward till it yields some results is primarily the responsibility of the user. The Indian user, whether the public or private sector industry or the socio-economic ministries, has almost never made it a point to seriously use indigenous research results. Rather, the emphasis has been the other way around, going in for repetitive imports of even relatively simple technologies without trying to find out what was indigenously available. Further, the weaknesses in the implementation of the public policy are laid to the door of the scientist or technologist. If drinking water is not supplied to all, or hygiene or public health measures are not implemented, it is not due to failure in research, but squarely due to the unwillingness on the part of the implementing agencies to tackle the problem.

The largest share of the Indian research and development budget goes to strategic sectors such as atomic energy, space, and defense. The research and development allocations are totally unrelated to the gross value addition of the sectors, which measures the contribution that they make to the national economy. Thus, the three strategic sectors have a GVA of Rs 5,532 crores and an allocation of 52%. Agriculture with GVA of Rs 4,45,183 crores obtained research and development allocation of 13%, science and technology and industry with GVA Rs 403,907 crores had research and development allocation of 15%. The health sector had GVA of Rs 26,2920 crores (not counting the contribution to the national health) and IT obtained 9% of the research and development funds. The IT sector contributed GVA of Rs 29,931 crores with research and development allocation of about 3%. (Gopal Raj 2002). The allocations for science and technology and agriculture rose in absolute terms from 1994-95 to 1999-2000, but fell in government research and development funding from nearly 19% to 15%. This sectoral funding covers support for basic science and research and also that of major socioeconomic sectors such as steel, petrochemicals, power, textiles etc. The misallocation of research and development funds has significantly affected the development of the productive sectors such as agriculture. The contribution of indigenous research and development in areas such as food processing, textile, housing etc. is minimal, with reliance being made on either traditional, indigenous or foreign know-how. These sectors can contribute substantially to the national economy, and to exports. Agriculture or agrobased areas including textiles and garments already contribute 45% of India's exports. It should be an important priority for all developing countries such as India to redirect research and development investment into areas that contribute most to national GNP, or to the solution of important social problems.

Such a redirection can take place only when the criteria of evaluation of research are put on a proper footing. All research output should be evaluated on the basis of the criteria of economic efficiency, social equity, environmental soundness and social control. This last item namely the exercise of social control is often overlooked, but is of crucial significance: The people should be made aware of development as pertaining to themselves, and then given the chance for democratic participation in the formulation and goal setting. They should become stakeholders in the process, of scientific research. Without this, science and technology remain barren edifices, the 'temples of modern India' in Nehru's words, rather than utilitarian structures. The major obstacles to the carrying out of socio-economically important research arise from the lack of social participation and social control. Thus, public latrines are designed which use more water in each flush than a villager uses in a whole day, solar cookers are built which force the housewife to spend hours in the hot sun, and cement lined canals are made which preclude the annual, communal repairs which the villagers used to give to their old, mud-lined canals. And then we sit and wonder at the people who will not use our 'scientific' solutions. Similarly, lack of environmental accountability has resulted in the planting of eucalyptus in areas with water scarcity, over- irrigation of cereal crops resulting in water logging, and so on. Ethical • concerns also form a significant component of social accountability, as exemplifies in the ongoing debate about amniocentesis, genetic engineering etc.

Only after the requirement of social accountability is satisfied can we actually look for upgradation of the 'quality' of research. Scientists are generally careful about verifiable data and reproducible results and so on, since publishability depends upon it. Nevertheless, there can be much room for improvements in quality. The developing country scientist faces special problems in international recognition due to paucity of funds, sub-critical mass in both funding and researchers, and the fact that work which is of critical importance in most socio-economic goals in his country is often of little scientific interest abroad. Thus, often 'quality' and publishability in international journals is linked to the addressing of issues or research problems which are important internationally, but which may be quite divorced from the actual socioeconomic needs in any developing country. There is always a great temptation to work on fashionable science ideas or 'frontier' research, to the detriment of research relevant to socio-economic problem areas. For instance, the expenditure on AIDS or cancer in India is of an order of magnitude larger than for the work on tuberculosis or malaria, which are much more important health problems. The funds and publicity devoted to AIDS prevention is also out of proportion to the incidence and potential of the disease in the Indian milieu.

The major reason for the lack of contribution of Indian science to the solution of the development problems of the country is the de-linking of research from the social context and production processes of the country. The cause for this de-linking has to be sought in the improper formulation of goals and improper evaluatory mechanisms, which govern the prospects of the scientist. If the criteria for evaluation of an individual scientist's worth lies in terms of publications, citation received or patents, it is hardly surprising if this becomes the pre-occupation of most scientists rather than the solution of development-related problems. Yet the criteria of assessing research using usual indicators such as citation index are fairly unsuited for assessing the relevance of research particularly in developing countries. The research which receives such citations are largely on topics of interest to the developed countries which might preclude most problems of interest to the developing countries. Secondly, lacking speedy communication, sophisticated instrumentation, a critical mass of scientists, and even journal subscriptions, the contribution of developing country scientists to the fashionable agenda of science in the developed countries can at best be marginal and is often ignored. Patents fare no better, since industry is not usually interested in productionising them as they look abroad for the solution of their problems, and in obtaining 'upgraded' technology.

Hence different evaluatory criteria need to be evolved to connect the process of development and scientific research in countries such as India. This could be, for instance, a composite index composed of: (i) Relevance of the output to the solution of national needs determined by a prioritization index for different areas in industry, agriculture, health, housing, education and so on; (ii) The nearness of the output to application; (iii) Simplicity or ease of application; (iv) The potential economic or social impact of the application; (v) The possible contribution to social equity, environmental soundness, energy/ material efficiency, utilization of local or natural resources and other desirable goals. Other criteria of desirability could evolve if warranted, say in defense-oriented areas. Basic research contribution and expansion of scientific horizons could certainly be brought in, provided that these arise in the context of finding solutions to nationally relevant problems or could be adequately funded with relatively modest expenditures.

The issue of quality of science is also likened to the quality of the manpower that goes into science programs. Already there is concern over the relative lack of interest in science programs at both the 10+2 level and the degree level. A substantial decline has taken place in both enrollment and retention of science degree students. The reason is the lack of employment opportunities for science graduates. The problem can be tackled only by integration of educational institutions programs with industrial requirements. The national laboratories are beset with problems of ageing manpower, many of the researchers being close to the retirement age. In addition, there are problems related to the falling real term allocations, obsolete instrumentation and infrastructure, and excessive bureaucratization and lack of mobility.

Some possible policy responses could be as follows:

- Stop further expansion of degree colleges and even general engineering colleges, and set up courses at diploma level instead. Enrolment in this can be at the 10+2 level or those who have had a general degree in Sciences or Arts.
- Each educational institution should be set up at a catchment area of industries, financial institutions, service sector institutions etc.
- Industrial firms/service institutions should try to anticipate their labour needs at least one year in advance, and recruit potential staff at 10+2 level based on interviews/tests and sponsor them for diplomas at educational institutions in specific areas such as metal working, leather technology, tissue culture, general or specific laboratory skills, software and so on.
- Cost of such a training should be shared on a 50 50 basis by the industry and educational institution, with the educational institution recouping by fees, government or other grants, etc.
- Contractual obligations can be worked out between industry and the student. Teachers can also be under contract to provide specific services such as on the job training, data collection and upgrading, information and market services etc.

Changes need to be made in the research and development system as a whole. First of all the expenditures in defense related areas have to be de-coupled from the research and development budget and allocation made for them in the defense budget. This would at least allow us to see how much is actually spent on research in socially relevant areas. Research and development institutions should tackle mostly such problems as are referred to them by industry, unless they can be justified as part of basic research, quality upgrading in specific areas or on issues of specific social relevance. There should be greater investment in specific areas of social relevance, such as health, pharmaceuticals, environmental safety, restoration of wastelands etc. International scientific competition has to be maintained primarily by universities through emphasis on basic research, unless they want to get industrial funding.

It might be argued that such an approach would result in the isolation of Indian scientists from the mainstream of world science, and create a ghettoisation of research in India. On the contrary, by facilitating the process of development, and by giving incentives to the scientists to tackle real problems, such

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Whither our Research Priorities in Teacher Education

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Discoveries, inventions and researches are highly respected terms in human history, not only amongst the scientists, innovators, and researchers, but also amongst the masses. Even in the present times, there are occasions when surprising inventions or discoveries take place. Surprising, because it is felt that discoveries and inventions like microteaching may not take place at this already advanced stage of scientific development. However, someone has recently come out with the assertion that the microteaching principle needs to be modified. All these changes occur because researchers and investigators consistently toil in the laboratories and institutions. They change human vision, perception, and sensitivities through their creative contributions. Educational researchers could gain substantially from what is being done in other areas, in terms of approach, methodology, techniques, and technologies. There could be sharp divergent opinions as to what are the 'motivations' for researches in science or social science and particularly in education? Not many go along with the old wise saying, that 'necessity is the mother of invention'. In the context of Teacher Education, it is relevant to focus our attention on what is the present status of research in the field of Teacher Education. The paramount importance, above all, is what are the research priorities in Teacher Education. In this context, we would need to look at: motivation for researchers; quality of research work and the extent to which research outputs are being utilised. In short, a professional survey of educational research, if conducted comprehensively, would reveal new directions to those already working in this area, and to others who intend to delve into researches relevant to Teacher Education. There should be no hesitation in admitting that ever since research degrees became essential qualifications for appointments and promotions in educational institutions, 'quantity' gained primacy over 'quality'. Since there is no fixed criterion for the evaluation of these in all the universities, examiners evaluate based on relations and recommendations made by the guide, colleague, friend etc. The student and guide select research topic on the basis of convenience of the guide and the investigator and no importance is given to the need of the discipline/institution, university or nation, since the freedom is given by them. These bodies are least worried about researches and their findings. The research areas are also not fixed by the Government/NCTE/universities or institutions, and hence there are a number of research studies repetitive in nature with slight modifications which has no significance for the students, teachers, Universities, society and the nation except the researcher who gets three increments. Sometimes findings of the research can also be challenged since the data collected by the irresponsible respondents in the form of three or five point rating scale questionnaires. Many a time, respondents do not take efforts to read questionnaire properly and put tick marks to save his/her time without caring the output of the research. Investigator sometimes himself/herself fills many questionnaires to save his/her and respondent's time. Findings are also derived as per the wish of the investigator and the guide. There is also a competition among guides to enroll maximum number of PhD students and subsequently award them at the earliest to enrich their curriculum vitae. This is also one of the criteria of the selection panel while selecting for readers and professors in the university. The quality of the Ph. D student and the research depends on the quality of the guide and the available faculties involved in the process of awarding Ph. D, since the inception of research topic, to the approval for submission and *viva-voce* of the thesis. Why there is not a single theses rejected in *viva-voce* although it is open *viva-voce* in many universities. *Viva-voce* is conducted open but no importance is given to the opinions, suggestions made by the participants during viva and all looks like a drama. If this is the gravity of *viva-voce* then it should not be the part of evaluation, which ultimately dilutes the quality of research in not only Teacher Education but in any discipline of research. It is surprising that the university asks the guide to suggest the names of the external examiner so that the guide gets the least efforts to manage everything from the beginning to the award of Ph. D.

In many universities, one copy of the thesis is sent to the examiner abroad to get impartial remarks as well as international status to the research work. There is an urgent need to boost morals; ethics of the guides and everyone is responsible, to bring professionalism among the guides. Universities do not recognize recently awarded Ph D students to guide unless the faculty has a sufficient number of teaching experience. This teaching experience varies in number in different universities. What is the relation of one's teaching experience for him/her to become a recognized guide? It means that teaching experience increases the ability of the guide for research? A research should be conducted in this area to observe the above said relation. Why to retain someone for a certain number of years to become a guide? Talented guides may be allowed to supervise PhD students. There should be a test conducted by the NAAC or UGC to produce qualified PhD guides. The test should actually assess the ability of the guide to do real research in the concerned field. There are guides who never guided a single student after becoming a recognized guide of the university in his tenure. Do we not allow a medical doctor to practice as soon as he gets his degree? It means that we have a distrust towards' recently awarded students regarding his/her talent in carrying out further research independently or to guide students which ultimately also puts a question mark on the talent of the guide and the university? This creates chaos among the budding researchers and guides. Unfortunately, these trends permeate into those research institutions and laboratories in which the recognition of good research was inbuilt into the system. The researchers working there have to worry about their salary scales and their up-gradation to higher positions, so long as they were not confident of the quality of their research work and the level of commitment to the cause. It is indeed discouraging that committed, enthusiastic, and devoted researchers, engaged unceasingly in academic pursuits, discontinue to provide valuable guidance to educational institutions, enterprising teachers, and creative researchers. These people could not manage to sustain their commitment to professionalism. Looking at the above scenario, there is no need to search research priorities in Teacher Education and the top most priority should be given to the upliftment of ethics and professionalism of PhD guides. The process of award of PhD in Teacher Education which would break the vicious cycle of poor teachers contributing to the decline in the quality of Teacher Education resulting in the decline in quality of the teachers. The research priorities in Teacher Education with respect to teacher educators and PhD guides could be as under:

- Development of test for assessing the research capability of the PhD student to become a recognized guide of a university.
- Development of teacher's classroom handbook of all subjects for all lectures taught in teacher training colleges out of 365 days excluding holidays covering subject content, aims, objectives, procedures, methodology to be adopted for teaching, degree of participation of the trainee, findings and conclusions made with the help of the trainee, implications of today's topic, and contribution by the trainee to enrich the subject content.
- Use and effect of interactive multimedia technology by teacher educator for enhancing teaching learning process during the lecture.
- Different methodology used by the teacher educators and their effectiveness on teacher trainee.
- Development of a standardized test to measure a degree of professionalism among teacher educators to teach teacher traines with respect to knowledge to cope with the new technology, application of knowledge in new situation, ability to motivate and provoke innovative creative ideas among the students, ability to hold maximum attention of the students on lecture, motivate students participate and raise questions during lecture, ability to do action research, communication skill, etc.
- Development of different standardized scales to measure teacher educator's talent to teach and observe lesson plan of different subjects, ability to give exact remarks to trainees for further improvement.
- Development of standardized scales to evaluate teacher educator's lecture by the teacher trainee.

The research priorities in Teacher Education with respect to teacher trainee and the curriculum could be as under:

- Achievement of teacher trainee after completion of the professional course of Teacher Education in terms of knowledge, communication skill, correct pronunciation, ability to teach and hold attention of the students during lecture, ability to use the latest technology in teaching learning and the dedication required for profession;
- Relevance of curriculum to inculcate professionalism among teacher traines in terms of knowledge content, practical approach, importance to development of communication skill and positive attitude, importance to the use of present multimedia technology in teaching learning as per the need of the hour;
- Effectiveness of the technology used in teaching learning over the teacher trainee.

The research priorities in Teacher Education with respect to institutions/university and their policies could be as under:

- Comprehensive survey at national and state level to plan the actual need of the teacher at different levels of education.
- Development of standardized entrance test for admission to Teacher Education professional course by central and state Government.
- Investigations of the institutions/university in adopting new technology for teaching learning; creation of a healthy academic environment for the trainee and teacher educator.
- A comprehensive and co-coordinated strategy needs to be developed, adopted and implemented at the national level in which institutions and organisations could participate depending upon the available expertise, resources and the level of motivation.
- Every institution and organisation has to evolve its own model, areas of activities and programmes.

Research in the field of Teacher Education has been conducted by a large number of institutions the publication of several volumes on surveys of educational research in India would indicate that sustained efforts in this field have yielded a fair body of useful material. It would be worthwhile reviewing this material to identify what can be utilised for the Teacher Education system. In addition, the large body of trained and experienced researchers familiar with the needs of educational research can also be motivated to conduct and guide research work in Teacher Education.

The very establishment of the National Council for Teacher Education (NCTE) by an Act of Parliament, in 1995 indicates that the country has recognised the need to focus attention comprehensively on all aspects of Teacher Education. This includes planned and co-coordinated development of the Teacher Education system and the regulation and maintenance of proper norms and standards. At present, universities and other institutions of higher learning rarely give teacher training the importance it deserves. Interdisciplinary researches are rare, though their need is obvious. How many departments of biology and education are working together to undertake research in preparing teachers of biology? How many option papers are available to the teacher trainee? Why there is no optional paper for teacher trainee? Is there no need to produce a teacher of psychology? Why there are a few optional papers at BEd and MEd level? The students of BA Psychology do not get admission in a teacher training institution/university since there is no subject like psychology at school level to teach. Why these students cannot be absorbed in a schools as academic counselors to guide students and parents for better academic achievement of their children? It means the scope and avenues for the students are restricted by the decision making higher authorities working in the institutions/universities. Our teacher educators dealing with the teaching of Science or of specific subjects like Mathematics or History seldom get a chance to renew the knowledge of their subjects in a well known university department of their choice except one orientation and two refresher courses for senior scale that too made mandatory. There is no exchange of ideas between faculties of different discipline of different institutions/universities except participations in some conferences that too if they desire or are permitted by the head of the institutions. The result is isolation of Teacher Education in the university system at various stages and levels. The departments of education in universities are not necessarily treated on par with all others, particularly those considered prestigious.

All the existing two thousand teacher-training institutions of the country are expected to conduct surveys, studies, and researches in Teacher Education. There should be visible efforts in every individual teacher training institution to conduct innovations for enhancing institutional efficacy. The sense of isolation and lack of motivation needs to be dealt with sensitivity and understanding. Fortunately, the institutional infrastructure available today is far more advanced than what was the position a decade ago. Universities ought to be in a position to undertake innovations and researches in different areas in the socio-economic and cultural context relevant to the upgrading of teachers, teacher educators and Teacher Education.

It was observed that researches, studies, surveys, and innovations conducted and undertaken over the last five decades have provided insight into critical issues concerned with Teacher Education. These results should have been utilised by organisations, institutions, individual teachers, and teacher educators. Unfortunately, that has not been the case, except in some intermittent cases. Not all researches were really planned keeping in view the possible utility.

The very nature of and approach to research in Teacher Education and the results over the last five decades probably need again research questions in Teacher Education. ❑

Crisis in Higher Education: Causes and Remedies

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Education is a process of human enlightenment and empowerment for the achievement of a better and higher quality of life. A sound and effective system of education results in the unfolding of the learners potentialities, enlargement of their competencies and transformation of their interests, attitudes and values. A remarkable feature of higher education system of the present day is the phenomenal growth in its size and spread. Despite this quantitative expansion, quality is deteriorating continuously giving rise to the cause for serious concern. To improve the quality of higher education several schemes like Faculty Development Programme, University Leadership Programme, National Eligibility Test, Academic Staff College, Autonomous College and National Assessment and Accreditation Council have been launched by UGC. These schemes have been in operation for quite some time now, but the success is not remarkable. This is because of their half-hearted and ritualistic implementation.

While thinking about quality enhancement it would be worthwhile to think about the four pillars of education: student, teacher, curriculum and evaluation and their relative importance. The most important pillar around which the whole process revolves is the student. But the most discouraging situation about this pillar faced by each and every institution is the poor attendance of students in the classrooms. Several factors such as general apathy of students towards serious learning without considering its true goal, exam-oriented attitude and the tendency to attend private coaching classes that provide spoon-feeding to students have posed serious threats to the educational standard resulting in the wastage of Government money in crores. It is adversely affecting in two ways. Since major Government fund is diverted to higher education, primary education remains neglected; secondly, the fund diverted towards higher education also gets wasted due to regular absence of students. To prevent this loss, either the fund can be diverted towards primary education while admissions in higher classes can be restricted to minimum and students might appear for the exam privately by attending private coaching classes.

The second option is that strict measures should be taken to regularise the attendance of the students. It is an open secret that despite the obligation of 75 per cent presence of students for appearing in the exam of that year, students enjoy liberty and the college authority cannot punish students for fear of losing grant if the students are detained. Teachers do not pour their soul in teaching because, students do not attend classes. The process of learning lacks co-ordination and interaction between students and teachers. This vicious circle has to be broken somewhere if the edifice of educational standard is to be protected from total collapse. Thus only giving support here and there and superficial repair to this will not be enough, but it is necessary to restructure it from the base. For strict observance of this rule (75% attendance) the following measures can be taken.

While giving admission to students an undertaking by parents can be taken which should clearly mention that:

- They guarantee the minimum 75% attendance of their ward in the classes.
- The ward would not remain absent without prior permission.
- The ward would appear for all the class-tests unit test, terminal, revision, prelim, etc.
- In the event of her/his failure to fulfil this condition, he/she could be forbidden to appear for final examination and the responsibility of this would lie with the parents. Under any circumstance, the parents would have no right (except for the genuine reason of illness, job of the student with prior permission of the principal and intimation from time to time) to challenge the decision of the authority.
- They have read all the rules and regulations and would abide by them.

Instead of marking presence on the attendance register, let there be signature system. Long sheets bearing names of students, their addresses and phone numbers and 30 small squares for the signature of student be used. Eight such signature sheets used for the months from July to February can be filed and would constitute the register of that particular class. At the end of every month names of students with less attendance should be displayed on the notice board and student should be trained to read the notice board regularly. Let there be an incharge teacher assisted by a non-teaching employee to take stock of the students attendance in each and every class. If necessary, letters should be sent to parents to inform them about their wards' continued absence from classes. Addresses at hand and ready phone numbers would enable the teachers to contact parents quickly.

Modification of Syllabi and Examination System

The syllabi of all subjects in general and languages in particular are not in accordance with the aims and objectives of the subject. We might not be accurate while giving examples of other subjects. But about English language, we can assert with conviction that it is so formed that the whole energy of the teacher and the students is consumed in understanding and explaining the content with no time left for language practice, skill and structure study. Essays are highly philosophical, abstract, complicated with hard language not matching with the standard of the first year. On the other hand the text should be simple, straight forward and full of practical wisdom as the primary aim should be to teach the language and its structure. There should be enough time for practice and drill work.

Our present examination system also needs reform as it has the following deficiencies:

- This system does not provide needed feedback either to the teachers or to the students.
- As no credit is given for class-work, students do not apply themselves regularly to their studies.

In the words of Kothari, "In the present system, when the future of the students is totally decided by one external examination at the end of the year, students pay minimum attention to the teachers, do little independent study through most of the academic year and cram accurately for the final examination".

The present examination system is more of a test of rote memory than of understanding and analytical thinking. So this system based on 'Memory Testing' be replaced by the system based on 'Knowledge testing' and the testing of the abilities and skills of the students.

New examination system should enlarge the areas of evaluation to cover the scholastic as well as the non-scolastic aspect of pupils' growth. This new method should help the continuous evaluation by a Variety of Techniques. This would also require more and precise study.

I sincerely feel that there should be a practical / oral examination or term work for every subject. Let the distribution be 80+20 i.e. written examination and term work, respectively. This internal assessment should focus on attendance, punctuality, sincerity, class response, participation in group discussion, seminar etc. These activities can promote their knowledge as well as presentation and discussion abilities. In languages there can be mock interviews to test their language skill, listening to a tape to judge their listening skill and comprehension. Once the syllabi and examination system are reformed, systematic planning regarding internal test can be made and the record should be maintained. This internal evaluation system could stimulate attendance of students.

Effective Teaching

In relation to aims and objectives of the subject and examination system effective teaching should be planned by the teacher. The National Assessment and Accreditation Council has identified seven parameters to evaluate institutional quality for accreditation. Out of them, just two parameters - curriculum options and teaching, learning, and evaluation account for 50 per cent of the weightage. This is the core of the academic program which depends largely on the quality and involvement of the teaching staff. A successful and dynamic teacher continues to remain a self-initiated, self-motivated, self-directed learner throughout his/her career. Effective teachers are those who are both competent and committed professional practitioners. A teacher should have:

- Commitment to the learner which can be seen in his love for the learner, readiness to help them and concern for their all round development.
- Commitment to society: Awareness and concern

about the impact of teachers work on the degree of advancement of families, communities and nation.

- Commitment to the profession i.e. internal acceptance of the role and responsibility of the teachers' profession, no matter under what circumstances one entered it.
- Commitment to achieve excellence, care and concern for doing everything in the classroom, in the college and the community in the best possible manner.
- Commitment to basic human values genuine practice of professional values such as impartiality, objectivity, intellectual honesty, national loyalty, etc., with consistency.

On all the factors involved in the process of teaching, the learner is, and should be, the most important factor. He should be the pivot round which all the factors should, revolve and unless and until he is regular in attending classes the whole process of learning and evaluation and enlightenment and empowerment will come to a standstill. Hence upgradation of Higher education cannot be considered without the systematic efforts towards improving the attendance of students. Once this obstacle has to be overcome. there will be and there is bound to be an excellent education with excellence in teaching, excellence is learning and excellence in management. Teacher community should be a group of committed, interested, active, change-oriented teachers working in a learning organisation. ❑

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an approach can only improve the standing of science and scientists in both the country and the world. Rooted in their own societies, Indian scientists can make a real contribution to the world, instead of existing on the margins of international science. The 'quality' related problems of Indian science would be automatically solved when Indian scientific research becomes relevant to the solution of the day-to-day problems of the nation, and evaluatory methodologies are modified to reward those scientists who contribute to such solutions.

In conclusion, the problem of quality of research is inseparable from the larger question of the linkages of science and technology to the social milieu. Research cannot take place in a vacuum, but has to be rooted in the reality of each milieu. The issue of relinking of research and development and the social context has to be solved in a larger framework than that of science and technology alone. The formulation of specific and concrete goals, the utilization of the results achieved, the establishment of linkages between the user and the research system and the formulation of appropriate evaluatory measures are factors that can contribute to this process.

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CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objectives	Names of the Organising Department	Name of the Organising Secretary/ Officer to be contacted
June 10-30 2003	UGC Refresher Course in Pharmaceutical Sciences	To discuss various issues related to teaching of Pharmaceutical Sciences	Annamalai University Annamalainagar	Dr. R. Manavalan Refresher Course Director Professor and Head Annamalai University Annamalainagar-608002 (TN) Phone: 04144-239738 Fax: 04144-238080 Mobile: 9843048426, 09843048426

Value-added Education

K V Kannan
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During the time of Independence there were 27 universities and 500 colleges functioning in India. The number of universities and colleges over a period of time got increased. During the year 2001, there were 257 universities, 53 deemed to be universities and 12,537 colleges functioning in India. Some 78.18 lakh students have got enrolled in these institutions. Around 40% of these students belong to Arts, 20% of them belong to Commerce, 20% belong to Science and the remaining 20% belong to professional courses.

Among the students joining higher education 87.9% the for undergraduation, 2.3% for diploma and certificate courses and 9.8% for postgraduation.

Need for Value-added Education

It has also been found out that 89% of the students completing their courses are unemployed, and most of those employed are perceived to be underemployed. As citizens of our country, we should have serious concern for this unemployment and underemployment.

Most of the Indian educational institutions are following the traditional concepts and methods compared to western countries following modern methodologies and sophisticated technologies in teaching. Most of the Indian universities are following outdated syllabus. This is the important reason for unemployment and underemployment prevailing in our country.

At the higher education level, a revolution should take place in our country immediately. It is not enough if the students have been taught their regular subjects. The educational institutions should give more than the subjects to the students studying in their educational institutions (Value Added Education). If the students have been given this additional dosage, automatically there cannot be the problem of unemployment or underemployment.

Ingredients of Value-added Education

The word 'value' may mean the value of a thing in terms of utility and cost, or it may refer to the quality of life based on the accepted virtues of a civilized society. Both senses of the word must get incorporated as the basic spirit of higher education in India. Therefore, job oriented and industrially useful courses *must be value based, in both senses of the word.* What value is added on material plane must be value based on the plane of actual life.

The courses have to be designed and redesigned according to the expectations of the society and industries. As 'quality' is referred to as the measurement between expectation and perception of people (students), the educational institutions *should aim at identifying the expectation of students* and industries and should prepare courses and subjects. Application orientation to 100 per cent should be brought in every course. The application orientation can be brought into various subjects by teaching the students current trends prevailing in the respective field of study, or by inviting a guest lecture (from industry) or a practitioner. The students can also be taken for industrial visits.

As most of the students in India study in their regional languages upto their school level, they face a lot of problems in English and communication when they opt for higher education. To solve this problem, the educational institutions can come out with special modules for teaching the students English. They can also come out with spoken English classes or can construct language laboratory. Simultaneously, students can be exposed to computers, e-mailing and Internet, as computer literacy is perceived as a must for survival in the present age.

It is not enough if a student is competent in his subject. He would be judged in various aspects during the time of interview. In particular the personality of an individual would be judged during the time of interview. Hence, educational institutions can come out with programmes for personality development, facing the interview board, etc. The institutions can also introduce mini-project work so that the students can be exposed to work to a certain extent.

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Role of the Chancellor in Higher Education

V R Iyer
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and

P G Gopalakrishnan
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The executive power of the State per Article 154 of the Constitution is vested in the Governor. The Governor is also the Chancellor of the universities in a particular state (e.g. Section 9 of the University of Bombay Act, 1974 and of the Maharashtra University Act of 1994, Maharashtra).

Education though brought under the concurrent list by the 42nd Amendment, it remains more so in the realm of the state as it is more of a local issue or a State issue in most cases and at most times. Here comes the role of a Chancellor, to play a leading role in education. This is more so after the pronouncement of the latest Supreme Court verdict on Minority Institutions (TMA PAI Foundation and Others *vs.* State of Karnataka and Others). The Chancellors have to attend to the need of the hour i.e. the revamping of educational system to ensure the development and prosperity of India, the land of diversity.

State of Flux

Globalization and Liberalization with WTO norms getting into India is a reality, with effect from 1st April 2003, and will be with all its vigour from 1st May 2005. The sector of Education has to undergo a sea-change in India with its heterogeneous considerations including:

(i) Ever increasing population,

(ii) Limited resources at the State and Central Governments,

(iii) Inability to pay for Higher Education at various *segments of population including the weaker* section,

(iv) Need to match the standards of international order.

The judgment referred to above has not spelt out anything on the expression 'Religion' or treatment of the 'Minority Educational Institution', and laying down of rigid *Ratios* or *Obiter*, it has very clearly pronounced the following with far reaching ramifications:

(a) The right to establish and educational institution can be regulated; but such regulatory measures must, in general, be to ensure the maintenance of proper academic standards, atmosphere and infrastructure (including qualified staff) and the prevention of mal-administration by those in charge of management. The fixing of a rigid fee structure, dictating the formation and composition of the governing body, compulsory nomination of teachers and staff for appointment or nominating students for admissions would be unacceptable restrictions. (Para 54 of the judgment)

(b) Setting aside rigid conditionalities, as in the case of Re: Unnikrishnan, and laying down flexible norms for the consideration of the admission of weaker sections and other deprived segments of the society in the institutions aided or otherwise in any state. (Para 45, 151 and 152)

(c) It is also clearly spelt out that the fees to be charged by unaided institution cannot be regulated but no institution should charge capitation fees. (Para 56 and 57)

(d) It is further stated that the institution imparting education (though education is part of charity) can have a reasonable revenue surplus, which may be generated for the purpose of development of education and expansion of the institution (para 57). It is more so where the state is not in a position to provide non salary grants to the institutions of higher learning.

In order to ensure that the institution should not indulge in profiteering, the Chancellor—as he is apolitical—should form a committee of enlightened educationists who do not hold any political leaning to ensure that not only the revenue surplus is generated, but also the surplus should not come from profiteering.

(e) A collective reading has to be given to Article 31 and Article 29(2) to ensure that an aided or unaided minority education institution should be entitled to have the right of admission of students belonging to minority group and at the same time would be required to admit a reasonable extent of non minority students so that the rights under Article 31 i.e. that right to establish and administer education institutions of their choice, and further the citizen's right under Article 29(2) i.e. no denial of admission to any educational institution maintained by the state or receiving aid out of state funds on grounds only of religion, race, caste, language or any other is not infringed.

The Committee of educationists that is constituted above may also be assigned the role of ensuring that the institutions shall try to reconcile the objective of Article 31 and Article 29(2) so that the Honourable Courts do not get flooded with cases, atleast from the educational institutions.

(f) The judgment has suggested for the establishment of District Tribunals (para 64). In any research or even a casual attendance to any Tribunal proceedings, it could be observed that they function like Courts of litigation , where adjournments and attended injustice is the order rather than an exception. Instead of tribunals the need of the hour is Councils of Arbitration and Reconciliation.

Hence any dispute or difference amongst the parties to the education, be it the Management, Teachers, Non Teachers or Students, the matter should be adjudicated or reconciled under the Arbitration and Conciliation Act of 1996 and the machinery provided under the Universities Act for Tribunal or for the Grievances Cell should be dispensed with. Time shall be not only the essence of any contractual obligation, but shall too be for the realm of education.

(g) The Central authorities such as AICTE or UGC shall regulate and control professional courses (be it part-time or full-time) and the state agencies and universities shall deal with the school and higher education courses (non-professional courses).

The urgent imperatives here are:

(i) Establishing of a regulatory authority

(ii) Fixing up the maximum permissible fees. The authorities to meet operational expenses, scholarships and revenue surplus.

(iii) Specifying the minority seats and defining the term 'Weaker Section'

(iv) Fixing the quota for Management/NRI seats

(v) Conducting of CET/WT by an independent agency (on all India or statewide basis), twice a year.

Monetary Considerations

It is very clearly stated except for Article 337, that the grant is not the constitutional imperative and as the world is evolving, higher education cannot and shall not seek any aid over a period of time.

It should be left to the State and the Centre to coordinate in regulating, controlling and developing financial and other matters of the educational sector for where the state alone cannot attain or enforce certain regulatory measures. The same could be attained through laws such as Income Tax (Section 11 to 13 and other related provision under the Income Tax Act, 1961), Central Statutory Bodies such as UGC, AICTE and so on.

The conduct and regulation of educational institution in the global context has to be taken up immediately to match the international order of learning and attaining excellence in primary to postgraduate or professional education.

This leads to the imperative of adequate funds, which could be generated only by generating adequate reserves/surplus, and there should be the mandatory provision to transfer a specific reserve every year to the corpus of the institution. The surplus generated from charging sizable fees from the affluent section or economically well off section could also be used partly for reimbursing or providing funds to the weaker section as educational aid.

The establishment, generating of assets, conduct of the institution and the Governing Body, be it Aided or otherwise, should be left to the Management of the institution for that knows the local condition and the ground realities. All other rules relating to teaching learning process ranging from the admission of the students onwards to the qualification and services condition for the teachers and non teachers of the institution should be provided by the state. The violation of the State regulation should not only be seriously viewed but should be penalized by a state level authority, subject to the action of such body be made amenable to the review/appeal of the High Court of the State.

New Horizons for Education

The Globalization shall compel the state to go in for mere setting out rules and regulations for the control of the educational institution rather than providing funds and conducting the educational institution. This could happen only with provision for the institutions to generate reasonable surpluses i.e. increase in fee, better infrastructure and the state leaving the education to educationists and not to the politicians.

Even after half a century of our living with the constitution, with its attended developments, we had not attained the avowed purposes of establishing a secular state with scientific temper. We need to reconsider the issue of whether reservation policy by whatever means need to be continued and as mach as the status of 'the minority' under the constitution. The education shall ultimately provide a well being to the masses and hence it is for the Chancellors to attend to matters of education and should direct the state to provide for directions and guidelines rather than cleaving it to the administration or Central agencies like UGC or AICTE only. The Chancellors have to attend to this urgent call of education to have clear rules on teaching, learning, establishment and conduct of educational institution in the light of Supreme Court Verdict as, sadly, the education remains to be the least priority to the states. As the heads of the states, the chancellors have to leads us from darkness to light, to free us from every kind of dominance except that of reason. ❑

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As most of the students are in their later teens while pursuing their higher education, they undergo a lot of stress. Hence, they students should be given exposure to meditation and yoga programmes during their course of study. Counselling and guidance can also be given to the students during their higher education. It can be personal counselling or career counselling, but it would be helping the students in taking the right decisions.

Educational institutions can encourage the students to appear for competitive examinations and can conduct coaching classes in their campuses for such exams. Most of the students join their postgraduation for getting a good job. Hence, the educational institutions can take efforts to conduct campus interviews or can send the students to the place of employer (companies) for attending the interview.

Inter-collegiate meet is another point of improvement for a student. The students can be given opportunity to conduct such meets in their institutes and can be sent to other institutes for participation. This would improve the inter-personal skill of the students.

Bringing in quality is thus an attribute to value. Since quality is an attribute of oneself, it would reflect the institution's character.

Innovation in Teaching Methodologies

Instead of the regular lecture method of teaching, the educational institutes can introduce modern teaching methodologies to the students. With the help of audio-video aids available, the classes can be conducted. OHP and multimedia can be used for conducting the classes as it would increase the level of interest among students in listening to the classes. Instead of lecture the faculties can try for demonstration in their respective subjects as it would give better impression in the minds of the students.

The students can be given a topic for seminar presentation or group discussion. They can be exposed to games related to their subjects and various role-playing. Quiz (both general and subject) has to be conducted at regular intervals as the IQ of a student can be improved consistently. Regular written assignments can be modified into online assignments to make them interesting. Educational institutions can thus try for new teaching methods or the existing methodologies can be redesigned so that the students can learn their subjects easily, interestingly and practically.

Conclusion

Best practices leads to best performance. Hence, give value addition for the students so that our nation can be converted into a knowledge economy. ❑

Quality Science Education

VN Rajasekharan Pillai, Director, National Assessment and Accreditation Council, Bangalore, and formerly Vice Chancellor, Mahatma Gandhi University, Kottayam delivered the Convocation Address of Vidyasagar University, West Midnapore at the eighth annual convocation on February 21, 2003 at Saheed Pradyut Smriti Bhavan, Midnapore, West Bengal. He said, " Classical disciplines like botany and zoology are slowly disappearing from the collegiate education scenario. Science teaching is at its lowest ebb in our country at a time when science internationally is poised for major leaps forward. Many of the emerging frontier technologies and cutting edge technologies are not homogeneous disciplines; they are conglomerations of almost every discipline of science. It is, therefore, very important to have a close look at inputs and outputs of the undergraduate science education in the colleges.". Excerpts.

The Vidyasagar University, Midnapore established in 1981 and named after the great educationist and social reformer, Ishwar Chandra Vidyasagar has been effectively catering to the higher education and development requirements of the region. The university has responded to the national and global challenges in higher education, keeping its integrity and stated objectives of intellectual, social, cultural and material development of the society around. While taking care of quantitative growth, the university has also focused on the relevance and quality of the educational offerings resorting to internationally accepted methods of self-evaluation, assessment and accreditation.

Education, Knowledge-driven Economy and Social Cohesion

Universities have a significant role in supporting knowledge-driven economic growth strategies and in the construction of democratic, socially cohesive societies. Higher Education is more than the capstone of the traditional education pyramid. It is a critical pillar of human development world over. In today's lifelong learning framework, higher education provides not only the high skills necessary for every labour market, but also the learning and training essential for teachers, doctors, nurses, engineers, civil servants, humanists, artistes, entrepreneurs, scientists, social scientists and several such personnel. It is these trained individuals who develop the capacity and analytical skills that drive local economies, support civil society, teach children, lead effective governments and make important decisions, which affect the entire society. Universities are clearly a part of all tertiary education systems, but the diverse and growing set of higher education institutions in every country—colleges, technical institutions, community colleges, nursing schools, research laboratories, centers of excellence, distance learning centers and the like—form a network of institutions that support the generation of the higher—order capacity necessary for development.

Higher education assists the growth and improvement of the institutional regime through the training of competent and responsible professionals needed for the overall development of the society. Its academic, research and extension activities provide crucial support for the national innovation system. They constitute the backbone of a country's information infrastructure in their role as repositories and conduits of information. In addition, the norms, values, attitudes and ethics that the universities provide to the students are the foundation of the social capital necessary for constructing healthy civil societies and cohesive cultures.

In order to successfully fulfil their educational, research and informational functions in today's world, universities need to be able to respond effectively to changing education and training needs, adapt to a rapidly shifting tertiary education landscape and adopt more flexible modes of organization and operation. Institutions are transforming themselves to respond to evolving educational needs particularly in the context of a globalization and a borderless market. New forms of competition and changing information and communication technologies emerge as part of this.

Let us examine some activities, which assist the universities and higher education institutions in the construction of democratic, knowledge-driven societies. Supporting innovation by generating new knowledge, assessing global stores of knowledge and adapting knowledge to local use is one broad area. This could be the ingredients of a national innovation system. Contributing to human capital formation by training a qualified and adaptable labour force is another necessary activity in this regard. High-level scientists, professionals, technicians, basic and secondary education teachers and future government, civil service and business leaders will be the parts of this workforce. The third important activity along these lines is providing the foundation for democracy, nation building and social cohesion.

Universities are the main locus of both basic and applied research. It is important to maintain advanced teaching and research programmes at the postgraduate level. Countries that have located a higher share of their research and development activity in the educational sector have been able to achieve significantly higher productivity. Graduates of postgraduate programmes are needed to staff research and development institutes, as well as high-technology concerns. Such institutions and firms are the main mechanisms through which the results of research are infused into the local economy. Tertiary education and training constitute the single greatest long-term leverage point available to all levels of government in upgrading industry.

Science Education and Research in Universities

Access to a sound research and development base in fundamental sciences and technology is possible only with a high-quality research training programme. The quality of the undergraduate and postgraduate education in our universities and colleges is an area of concern in this regard. The thrust for science education and fundamental research in Indian universities is decreasing day-by-day. Without adequate higher education and research in science providing a critical mass of skilled and educated scientists, no country can ensure genuine development. At the national level, we should aim to tighten the links between higher education and research institutions, taking into account the fact that science education and research are closely related elements in the establishment of knowledge.

The science education imparted in colleges has a significant impact on the quality of the postgraduate teaching and research in universities and other academic institutions. A sound basis in science and aptitude for undertaking science as a career are moulded in the collegiate undergraduate education. Attracting the best talents for studies and research in fundamental sciences is essential for this purpose. The declining quality of teaching and training to those who enter the research career now-a-days is a matter of grave concern. In recent years, there has been a serious decline in the quality of those who seek teaching and research careers in science.

A look at many of the several thousands of colleges and universities which offer degree and postgraduate qualifications across the country will reveal the lack of facilities, motivation and declining interest in the promotion of science. In some States of the country, where the professional colleges are being sanctioned indiscriminately without any study of the demand, there are few takers for degree courses in traditional disciplines like chemistry, physics, mathematics and biology. Classical disciplines like botany and zoology are slowly disappearing from the collegiate education scenario. Science teaching is at its lowest ebb in our country at a time when science internationally is poised for major leaps forward. Many of the emerging frontier technologies and cutting edge technologies are not homogeneous disciplines; they are conglomerations of almost every discipline of science. It is, therefore, very important to have a close look at inputs and outputs of the undergraduate science education in the colleges.

Lack of well-qualified, talented and motivated students for research in Indian universities is a major issue. Science departments in universities across the country are facing a major crisis with financial resources, quality manpower and motivated students declining at an alarming rate. Research requires substantial infrastructure, sophisticated instrumentation, well-endowed laboratories and significant budget for consumables. The expensive instrumentation needs to be very frequently upgraded also. Maintenance costs are also exorbitant. It is no longer possible to practise quality science education or scientific research on meagre budgets.

Research is an integral part of the university system. The qualities of teaching and research are interlinked. Maintenance of standards and quality of teaching and research is an area of great concern. Research in India is mainly carried out by universities, national research laboratories and research organizations. Unlike in the developed countries there is not much of research in industrial establishments. Originally the entire research was conducted in universities. University research is generally the sum total of all the doctoral researches leading to PhD degrees. Even specifically targeted mega research projects from major funding agencies are mainly executed through the research work of a large number of PhD students with limited participation of post-doctoral fellows. Post-doctoral research as a full-time engagement has not yet come to stay in India. With the stipulation of PhD degree as an essential qualification for almost all academic positions a trend for 'research for PhD sake' is also very much there.

By definition and by practice all over the world, PhD is only training for research. There are institutions internationally, which offer PhD degrees based mainly on course works including,a definite component of research. Training in methodology of research in a particular discipline, state-of-the-art practices and approaches (experimental and didactic), result analysis, projections and implications of a particular problem are the main targeted objectives of a doctoral programme. There is also a requirement of an original piece of contribution in that area. Originality in concept and approach is also intended. The stated condition is that the doctoral thesis should create some new knowledge. Value judgement of these criteria is often very delicate and difficult.

The quality of the doctoral research programme varies depending on several factors. The guidelines proposed by the universities also significantly vary. Even within a university there are variations discipline-wise. Even for research registration several different types of criteria are employed.

Suggestions for ascertaining minimum level of quality for doctoral work pertain mainly to:

(i) Suitability of a candidate for undertaking a particular research problem;

(ii) Flexibility in changing the direction of research; (iii) Minimum requirements for a PhD Supervisor;

(iv) Role of Pre-PhD seminars, presentations and scrutiny;

(v) Internal mechanisms within the faculty/department to prevent dilution of quality;

(vi) Post-PhD Thesis Viva/defence of thesis;

(vii) Publications - impact factors of Journals - citation and bibliometric analysis;

(viii) Thesis adjudication guidelines;

(ix) Judging of the composite quality of research from a department through periodic assessment of the impact of the research -making public the value judgements on this;

(x) Inadequacy or irrelevance of the rules for PhD registration, evaluation and awarding of PhD degrees; and

(xi) International trends in PhD evaluation.

Research assessment exercise has to be carried out systematically in universities, keeping in mind the targets set for the programmes. Fundamental research differs from target-oriented research because in the former, one is exploring unknown territories. Such research has to be evaluated in terms of quality of output and its impact. In such exercises, the tools of evaluation should not hinder the very objectives of basic research. New ideas and unconventional approaches need to be encouraged in fundamental research in universities. Revolutionary basic research has an inherently large uncertainty and may take long period for achievement of results. In the case of applied research, definite objectives and time-bound activity have to be set and provided all necessary support. Accountability of the research has to be ensured by measurement of performance against planned targets.

The university system in the country should ensure that

- Science education in colleges and universities in the fundamental areas is revamped to match the international trends
- Interdisciplinarity and transdisciplinarity are necessary in teaching programmes to prepare students for the necessary understanding and mastering the complexities of modern science
- Postgraduate departments should have facilities for research.
- Research in fundamental sciences has to be encouraged at all levels.
- Performance evaluation at all levels starting from heads of institutions /departments to students be objectively carried out.
- Linkages between colleges, universities and national institutions have to established/strengthened with focus on the academic interests of the university system.
- Governance structures in the university system have to be restructured and decentralized giving

flexibility and autonomy to talented teachers and quality institutions.

Strengthening of Teaching/Research Programmes in Arts, Languages, Humanities and Social Sciences

Adapting to the changing environment is not only a matter of restructuring university education, introducing emerging areas and applying new technologies. It is equally important to ensure that students are equipped with core values needed to live as responsible citizens in complex democratic societies. A meaningful education should stimulate all aspects of human intellectual potential. It should not simply emphasize access to global knowledge in science, technology and management, but should also uphold the richness of local cultures and values, supported by the time-honoured and eternally valuable disciplines of the humanities and social sciences, including philosophy, literature and the arts.

With increasing importance of information technology, biotechnology and related emerging areas, there is an observable decline in the interest towards education in conventional subjects in humanities, social sciences, languages and art subjects in our country. This is again an undesirable trend. Promotion of relevant education and training in these subjects with proper integration of ICT and other emerging skill-related areas is very essential. Restructuring of the curriculum and adoption of state-of-the-art methods for imparting and receiving knowledge in these subjects would greatly enhance the relevance of these courses. As a nation, we need trained manpower social scientists, men of letters, artistes, linguists and the like as any other skilled manpower. Therefore, the need of strengthening education in such subjects through value addition and restructuring has to be emphasized and properly looked into. The liberal education purpose of the university system should remain in place with the due emphasis. The concept of a unitary multi faculty university with all areas of knowledge, skills and professions with the overall objective of universal knowledge has to be promoted. The overemphasis on applied knowledge or science, neglecting the fundamental sciences will not lead us anywhere. The generation of knowledge, transmission of knowledge, storage and retrieval of knowledge and utilization of knowledge all should be pursued by the university. If one acquires real knowledge, he will also know how to apply it. There is only knowledge and applicable knowledge. No knowledge is there which is not applicable. The applicability is a question of context. The context has social, cultural and regional connotations. A person acquiring knowledge should also be educated of this context. Herein comes the importance of the awareness and education in social sciences and humanities and moral and ethical concerns. If you acquire knowledge and skills in any emerging area without a proper backing of the humane universal ideals, you may not achieve proper use of knowledge or you may even fail the very purpose of acquiring knowledge or education.

The established systematic education you have achieved through the university system might have created some prejudices in you. Some of the learnings and skills you have gathered may become out of place at a later time or in a different context. You may even have to unlearn many things. The process of unlearning is very difficult, much more difficult than learning. The award of a degree should not be taken as the culmination of the educational process. The degree or diploma is only a license for learning. After the educational process in a university or institution, you should have the humility to admit, as the proverb goes, that 'What I have learnt is just handful, what remains to be learnt is as big or vast as this universe'.

Dear students, you know that only 6 or 7% of your age group gets the privilege of entering into a college or a university in our country. Out of this chosen few you came out successfully. You have a moral obligation to serve and help the vast majority who are not getting the privilege of higher education. Your dedication and your determination to serve the society at large can only make the society in your immediate vicinity and the nation self-reliant, strong and developed. ❑

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IATE Annual Conference

The XXXVI Annual Conference of the Indian Association of Teacher Educators was organized at Dehradun recently. The Conference was organized in collaboration with the Institution of Engineers (India) and Department of Technical Education, Uttaranchal. The theme of the Conference was 'Environmental Education: Perspective and Prospects'. The keynote address of the inaugural session was delivered by Prof. R P Sharma, Retd. Dean and Head, Education Department, University of Delhi, Delhi. Shri Nav Prabhat, Minister of Urban Development and Forest, Uttaranchal State also addressed the gathering. Other dignitaries present on the occasion were Shri S A Khan, Sh. Bhartrihari, Prof. Mohd. Miyan, IATE General Secretary Dr. Y K Gupta, Organising Secretary Dr. (Smt) Jyotsna Saxena and Prof. L C Singh. Prof. V K Sabbarwal (Delhi) delivered Prof. T K N Menon Memorial Lecture, Prof. S N Mukherjee Memorial Lecture was delivered by Prof. K Sudha Rao, Senior Research Fellow, NIEPA, New Delhi. The Chief Guest of the valedictory session was Shri Sudarshan Agarwal, Honourable Governor of Uttaranchal State.

There were 166 papers which highlighted and analysed almost every sub-theme of the main theme. The delegates emphasised on the urgency to conserve and create congenial environment to save the present and protect the future. Environmental education, both theoretical and practical, should be given with all seriousness.

In the Seminar 13 eminent educationists were conferred with IATE Honour Award. On this occasion a poster exhibition on environment related themes was also organised by Km. Sandhya Mishra, Lecturer in Education, D W T College, Kanpur which was attended by nearly 300 educationists, teachers, subject specialists and others.

Shri S A Khan and Shri Bhartrihari, representatives of Institution of Engineers and Department of Technical Education, stressed on the need of adjustment between environment and technology. They were in favour of developing such technical methodologies which prove useful in preservation and development of the environment.

In his keynote presentation Prof. R P Sharma gave a new name 'Sundaranchal' to Uttaranchal State. Uttaranchal is 'Land of Gods' he said stating that there is no dearth of flora and fauna in this land. He expressed that the public is quite conscious about maintaining and preserving the natural heritage. People have sacrificed their lives for this purpose. For survival of the mankind environmental balance is the need of the hour. Our ancestors have given to us congenial environment for our existence. We should maintain it and not mar it for our future generations. Teachers and specially Teacher Educators should be conscious of their duties towards maintenance of environment.

The Chief Guest, Shri Nav Prabhat expressed that he found himself in a state of confusion when the departments given to him were linked with both destruction and preservation of environment. He was of the opinion that states have a dearth of resources and revenue for activising various development programmes. In such a situation states find themselves compelled to exploit available resources to generate revenue. Therefore one should not expect us to take a lead in the field of environment. The positive work related to environment conservation can be done nicely but compensation should be given to meet out resource crunch in this work.

The educationists who were conferred Honour Award of IATE were Prof. K Sudha Rao (Delhi); Prof. S Mohan (Karaikudi, Tamil Nadu); Prof. H P Dixit (Delhi); Prof. D N Sansanwal (Indore, M.P.); Prof. V K Sabbarwal (Delhi); Prof. R P Srivastava (Delhi); Prof. J S Chaube (Aligarh); Prof. D R Goel (Vadodara, Gujarat); Prof. Jag Mohan Basantia (Kalyani, W B); Prof. M S Padma (Shillong); Prof. M Khajapeer (Bangalore, Karnataka); Prof. J N Joshi (Chandigarh); Dr. S N Singh (Moradabad, U.P.).

The session, convened by Dr. Jai Pal Singh 'Vyast', featured Prof. T K N Menon Memorial Lecture, delivered by Prof. V K Sabbarwal (Delhi). In his lecture, Prof. Sabbarwal stated that Prof. Menon belonged to an era which is no more present. He presented a detailed like sketch of Prof. Menon and highlighted his contribution in the field of education. In his opinion, "teacher educators should now become professionals. IATE should play lead role in providing professional development of teacher educators in India. Community too should be an active partner in child education. Teacher education should be more school based. The apex bodies of Teacher Education should consult IATE on every issue". The teachers should talk more in terms of duties than rights. He stressed the need of increasing the period of B.Ed training. Prof. L C Singh, Chairman of the session, thanked Prof. Sabbarwal and advised IATE to publish complete bio-data of Prof. Menon in its forth coming Newsletter. A vote of thanks was given by Prof. R P Srivastava.

In the first technical session the delegates presented with papers related to two main themes of environment viz. Current Issues of Environment Education in India and Environmental conservation: a boon or obstruction in the development. The main themes of the second technical session were methodologies, environment and educational awareness to be implemented at various levels of schools and teacher educators and preparation of teachers for environmental education.

Prof. S N Mukherjee Memorial Lecture was delivered by Prof. K Sudha Rao, Senior Research Fellow, NIEPA, New Delhi. She presented the relationship between teacher education and environment in a new format. She said, "teacher education has to cater to changing nature of participation. The nature of expectations is also changing. Nature of resources and administration is also undergoing changes. Teacher has to act as a facilitator. She felt that restructuring of curriculum is quite easy. Educationists are able to do this work quite easily but its implementation is very difficult job. The situation is same in India and abroad. If implemented, it is only forty per cent. Talking about autonomy she felt that teachers have always enjoyed autonomy in the past. They should recognise their power and strength. The problems of the future can be diagnosed and solved by teachers only. Prof. Pramod Kumar, from Dev Sanskrit Vishwa Vidyalaya, Shanti Kunj, Haridwar, also spoke in similar vein. The session was chaired by Prof. R P Sharma. Vote of thanks was given by Prof. K B Budhori (Srinagar, Garhwal). Prof. J K Joshi, Kumaun University convened the session. The third technical session was on the theme 'Role of Govt. and NGOs in promoting environmental education and awareness'. Eight papers were presented in the session.

The valedictory session was chaired by Prof. R P Sharma, Vice President, IATE and Shri Sudarshan Agarwal, Hon. Governor Uttaranchal State, was the Chief Guest. The Chairman of the Session Prof. R P Sharma talked about Sundaranchal and its flora and fauna. He said, "though we swear in the name of nature we do not cease to mercilessly engage in its destruction. Knowledge is virtue. But do we have real knowledge? The nature possesses moral tone. Do we recognize it? "One impulse from a vernal wood can teach you more of man, of morals, evils and of good than all the sages can" he quoted from Wordsworth.

The Chief Guest Shri Agarwal termed Uttaranchal as 'Sudarshananchal'. He said that the human sensitivity towards environment has vanished. We have started adopting *'Chalta Hai'* approach. Our attitude towards life is wrong. Supreme Court has come to the rescue of environment the question is what type of future environment we want to give to our children? Everyone should be provided proper education i.e. privileged, underprivileged or deprived. Experts, NGOs and others should share their experiences for the betterment of the environment. Dr. S N Singh (Moradabad) was given Honour Award of IATE in the form of a certificate and memento by the governor. Dr Y K Gupta, General Secretary IATE, presented the report of activities of IATE, Dr J S Jha (Moradabad) read the brief report of the activities of the seminar. Organising Secretary Dr.(Smt.) Jyotsna Saxena gave a vote of thanks.

Some of the important recommendations of the Seminar are:

- Environmental education should begin from home and should continue in schools and colleges:
- More emphasis should be given on environmental conservation and creation than on environmental pollution. It is always better to touch upon positive aspects than negative;
- There is a need to change the mindset or attitude of people. Creative and constructive activities as well as meditation can bring about change in the attitude of children/people.
- It is good to introduce Environment education at every stage of education. It will fulfil the knowledge aim but the problem of environment

should be tackled by practical approach because practice is always better than precept'. Activation of the child in environment related activity is essential.

- People should act both as conservator and creator of environment. There is a paramount need to create a consciousness of the environment. It must be promoted in all ages and all sections of society, beginning with the child.
- Environmental education should have an important place in pre-service school teacher training. The teacher education institutions have to share this responsibility in the present context.
- Efforts should be made to maintain the essential ecological pressures and the life support system such as air, water, land, flora, fauna etc.
- Sustainable development of the environment should be done, not by conquering the nature, but by development in accordance with nature.
- The NGOs, social workers, senior citizens, educationists, environmentalist and even villagers should come forward and co-operate with one another to solve environment related problems.
- Environmental management and organisation should be the essential part of the training of teacher educators.
- The environmental education requires earnest efforts to reach as many people as possible through all available popular media such as talks, discussions, exhibitions, seminars, magazines, newspapers, radio and television.
- Eco-clubs should be established and students should be motivated to willingly accept their membership.
- 'I have to do' and not 'Thou have to do' approach can work wonders in environment related activities.

P N Kaula Honoured

To honour Prof. P N Kaula for his contributions to Library and Information profession and book culture and also for the documentary prepared by the Government of India on his life and work as a Legendary Figure in the country and also the Department of Culture, Government of India having awarded him the first and only fellowship for his multi phased activities and contributions to librarianship through the Raja Ram Mohan Roy Library Foundation, Kolkata under the presidentship of Dr. P Pushpangadan, Director, NBRI his 80th birthday was celebrated at National Botanical Research Institute, Lucknow recently when he entered the 8th Decade of his life. The programme was organised by Dr. H V Mote, Secretary of the Ranganathan society for Book Culture, Library and Informatics Studies. Dr. P Pushpangadan gave welcome address. Kaula international award is being given annually since 1975. Prof. Kaula in his address emphasised that man is a tool in the hands of destiny and every one should work hard with dedication, leaving the result in the hands of God. Dr. S Rajan, Scientist, CIHNP said 'I learnt hard sustained work and editing from Prof. Kaula that is why I could bring out a journal on Horticulture'. Mr. M L Kain, Technical Officer, NBRI proposed a vote of thanks.

National Seminar on Library Automation

The Ranganathan Society for Book Culture, Library and Information Studies organized a National Seminar on Library Automation, Networking and Legislation at the National Botanical Research Institute, Lucknow recently. About 200 participants attended the business sessions. The Seminar resolved that Ranganathan Society be formed as a broad-based organisation to make library movement, a people's movement involving professionals from book culture, library and informatics studies. In this respect Prof. P N Kaula, recalled the efforts made by Dr. S R Ranganathan and Late Iyyanki Venkata Ramanayya to enlist the support of all those pesons promoting book culture, media activities and library services. A broad-based organisation was therefore necessary to continuously and persuasively remind the media, policy makers, reading public, and the Government, the importance of libraries and information centers as the only stable agency where information is freely available and accessible.

As the Information Revolution changes the way we live, learn, work, analyse and serve information, we cannot assure that libraries will continue to offer a safe haven for all the world's ideas and viewpoints. Together we must speak out about the essential role of libraries and librarians. We must also let our people know that stakes are high and the future uncertain for the public's right to know. Active support for libraries and information centers is more important than ever before if we have to promote network of libraries and information centers in all other states where library legislation has not taken place. Even in those states where legislation is in operation, we have to urge the authorities to amend the law in consonance with the challenges posed by information and communication technologies. Libraries provide a safe haven where individuals and families can connect. They offer a context to understanding and provide an environment that values knowledge over prejudice, hatred and fear.

UGC Refresher Course in Pharmaceutical Sciences

A three-week UGC Refresher Course in Pharmaceutical Sciences was organized recently at the Faculty of Pharmacy, Jamia Hamdard, New Delhi. The programme was inaugurated by Dr. R S Gaud Advisor-I, AICTE. Mr. Siraj Hussain IAS, Vice Chancellor, Jamia Hamdard delivered the presidential address. During his address he stressed upon the need for continuous education of teachers and the newer opportunities for the profession of pharmacy. The Chief Guest Dr. R S Gaud touched upon the regulatory aspects of the Pharmacy Profession and highlighted some latest developments. The Course Director Prof. R K Khar gave the glimpse of the profession of Pharmacy and the future challenges of the Pharmacy Educators in particular.

There were 28 teacher participants drawn from various universities. Fifty eminent resource persons from NIPER, Mohali; Ranbaxy Research Ltd, Punjab University, Jamia Hamdard, College of Pharmacy, New Delhi; Kakatiya University; Banaras Hindu University; Dabur Research Foundation; Indian Institute of Nuclear Medicine and Allied Sciences (INMAS) New Delhi; Drug Control Office, Delhi; and Department of Science and Technology, delivered lectures on various topics ranging from drug delivery, regulatory aspects, herbal drugs, quality Control, patient counselling etc.

The participants were given ten practical demonstrations on Instrumental techniques and Pharmaceutical Processes. Industrial visits to two Pharmaceutical Industries, Ranbaxy Research lab at Gurgaon and Dabur Research Foundation, Sahibabad were also conducted. The valedictory function was presided over by the Vice Chancellor, Mr. Siraj Hussain. Prof. S S Agarwal, Principal, College of Pharmacy was the Chief Guest.

CIT 2003

An International Conference on Information Technology is being held from December 22 to 25, 2003 at Bhubaneswar, Orissa under the aegis of Orissa Information Technology Society. The Conference would include a few day long student level tutorials. In addition, 'Dr. A K Pujari Symposium on IT and Education' is also planned for academia working in this field which would deliberate on the current initiatives for IT in teaching and learning and administration in the country: and the strategies that could be followed for future. For further details, contact - The Organiser, CIT 2003 Secretariat, Silicon Institute of Technology, Silicon Hills, Bhubaneswar 751 031, India, E-mail: laxman@silicon.ac.in

HELINET Consortium

While launching the HELINET Consortium at the Rajiv Gandhi University of Health Sciences, Bangalore, Dr. Ved Prakash Mishra, PG Committee Chairman, Medical Council of India said that the quality of medical education in the country should be improved to face the emerging global competition in medical profession. Dr. Mishra said that the medical education in the country has developed in the last five decades to meet the demands of the publication. But there is a need to improve quality of medical education and service.

"Country's planners, administrators, heads of universities and medical colleges should join hands to prepare an action plan to improve the quality of medical education and service in a bid to compete at the international level", Dr. Mishra added. Describing the HELINET as a revolutionary step in medical education, Dr. Mishra hailed the University for providing e-learning facility to the teaching staff and the medical students. Information technology should be utilised to improve the standard of medical education, he added.

The University, through the HELINET Consortium, will provide access to more than 650 international medical e-journals to all the medical colleges in the State on a cooperative e-access model. Vice Chancellor Dr. R Chandrashekara, former Vice Chancellors Dr S Kantha and Dr Chandrashekar Shetty, Registrar Dr K M Sreenivasa Gowda and Librarian Dr Ram Raj Urs were present on the occasion.

Programme on International Cooperation

A programme on International Cooperation was organized recently at CCS Haryana Agricultural University, Hisar. Mr. K Bajpayee, Ambassador of the Republic of Surinam visited various laboratories and research farm of the CCS Haryana Agricultural University, Hisar before chairing a function of Indian Council for International Cooperation on the campus and witnessed various technologies evolved at the University especially in agriculture. During his visit, he evinced keen interest in biotechnology, vegetable and mushroom production. He also had detailed discussions with Heads and scientists of these disciplines.

He was also apprised of the objectives as well as activities undertaken by the University. He was taken around the university exhibition and shown Varsity achievements in areas of agriculture, animal science, veterinary science, home science and basic science. Expressing views on the work being done at the University, Mr. Bajpayee noted that he was impressed with the University achievements and the enthusiasm of its scientists.

Seed Farm for Farmers

Chief Minister, Sh. Om Prakash Chautala stated that the Haryana Government was making efforts that the farmers of the State get and grow quality seed of crops and earn more profits. He said that since seed was the base of agriculture, if the farmers get quality seeds, they can improve their production and profits. Sh. Chautala said this in his address after dedicating RDS Seed Farm of CCS Haryana Agricultural University, Hisar to the farmers recently.

He said that the interests of the farmers were always a priority of his government and it would not leave any stone unturned to extend all facilities and help to the university for the development of the seed farm. He urged the farmers for diversification of agriculture. He said that the need of the hour was that the farmers instead of growing traditional crops should go for cultivation of fruits, vegetables, flowers and herbs of medicinal value. He said that this shift in agriculture had also become necessary in view of the fast declining cultivation land.

Underlining the importance of herbs he said that these were in good demand in the global market and it was only China which was making best use of the opportunity and earning about forty thousand crores through their export. The Haryana government which had realised the importance of herbs, had started promoting their cultivation among the farmers, he said, adding that they were being provided all help including technical know-how. The Chief Minister also switched on a seed processing plant on the occasion.

The Vice Chancellor, Mr. Vinay Kumar, expressed gratitude towards the government for allocating 4000 acres farm land to the University for establishment of this farm. He said that improved seeds of varieties of cereal, fruits, vegetables and fodder crops suitable for cultivation in the State would be developed, processed and given to the farmers. Once the improved seeds production programme is taken up on the total land of this farm, said the Vice Chancellor, there would be no scarcity of seeds in Haryana. The Vice Chancellor said that this farm has been christened in the name of an eminent and unrivalled plant breeder late Rao Bahadur Chaudhary Ram Dhan Singh who laid the foundation of crop improvement programme in the country as early as 1911 and developed nearly two dozen high yielding varieties of wheat, rice, barley and pulses. On this occasion, the Vice Chancellor also presented a memento to the Chief Minister. A large number of farmers, Varsity scientists and government officers were present on the occasion. ❑

INVITATION TO AUTHORS

Authors are invited to contribute articles on contemporary issues in higher education in general and Indian higher education in particular for publication in the 'University News'. The articles may be sent as an e-mail attachment in MS WORD to: *aiu@del2.vsnl.net.in* or printed /typed copy in duplicate along with floppy by post at the following address:

The Editor
University News
Association of Indian Universities
AIU House, 16 Kotla Marg
New Delhi 110 002

Value Addition in Academics

A doctoral degree. Is it the ultimate thing for an educationist? The answer would be yes from many people in the field, though it is contrary to the fact. Educationists are under the illusion that degree addition matters a lot more than the value addition in Education. There is no second option that a doctoral degree is essential for academics, but it is not the end. Research plays a vital role in the development of any discipline, but unfortunately today researches are being conducted with a primary emphasis on degree. They do not contribute significantly to the development of the discipline.

The unanswered question is why the quality of research in academic has gone down to this level. The reasons cannot be traced easily, but if you ponder for a while you can find that quantity is given prominence over quality. This has taken our researches to this abyss.

Seminars, workshops and conferences are frequently conducted by academic bodies and the reputation of an institution is based on the numbers and not on the basis of the contributions. Academics may not agree with this view, but look at how papers are presented in a seminar. It is startling to note that in a typical paper presentation session a participant is given two minutes for presentation.

The contribution to the discipline concerned within two minutes is a question worth answering. It is because of this reason it is possible for an academic to prepare a paper within an hour's time which in normal course needs a couple of weeks for preparation to make it research oriented.

The decline in the standard of academic research stems from our own educational system which lacks any vision. Universities stipulate that to obtain a doctoral degree one should have published two or three papers. Similarly academic bodies like UGC and AICTE stipulate that faculty members of an institution should have published a minimum of six or seven papers to enable the institution to obtain funds for development. In both the situations they have specified the quantity but no word has been spelt on the quality.

It is because of this irrational policy of universities and academic bodies academics have started concentrating more on the number of papers/articles published. In this context authorities concerned may ask what prevents the organizations from rejecting the paper/articles which are of inferior the quality. The answer is very simple since it is concept of give and take policy, today the organisers will accept a paper of inferior quality for presentation and tomorrow his paper of same nature will be accepted and it is construed as a win-win situation for both the parties.

It is time for the authorities concerned to take some drastic measures to come out of the prevailing situation which if allowed to continue for quite some time will take our academic field to a point of no return. One possible way of improving the system is that the universities and statutory bodies shall stop insisting on the numbers. Instead they shall focus on the quality of work being done by the academics. It is easily said than done but it is for authorities to evolve a consensus in this regard and they may even call for a national conference and could find alternative solutions for this chronic problem.

I believe in the concept of end justify the means and the problem has to solved and how it is done is immaterial.

S Kuppusamy
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Higher Education at Crossroads

K Pushpanadham and **Anjali Khirwadkar**
(Faculty of Education and Psychology, MS University of Baroda, Baroda-390 002)

Chalam, KS (Editor), 2002, Studies in Higher Education: Indian Psychology and Consciousness, Visakhapatnam Press and Publications, Andhra University, 256 pp, Rs 200/-.

This is a Commemorative Volume in honor of K Ramakrishna Rao, Professor of Psychology and a former Vice Chancellor of Andhra University. This book mainly contains the writing of Prof Rao on Indian Higher Education and Psychology. This volume contains two parts in which the first part contains invited contributions on higher education and the second part includes the selected writings and speeches of Prof Rao. In the first part the book contains wider perspectives of higher education right from pedagogical, technological dimensions to trade in education, Yoga and health education. The second part focused on the developments and future vision of higher education, human rights education and Indian Psychology. In a nutshell it is a detailed presentation of the Indian higher education system.

Prof Ananda Krishnan stressed on the developments that took place in the system of higher education and focused on the areas of great concern for quality improvement. Indian higher education system has undergone such a sea change for the last five decades by accumulating several innovative programs as envisaged in the National Policy on Education (1986) and the Program of Action (1992) the system of higher education in India needs to move the centre to provide people with an opportunity to reflect on the critical, social, economic, cultural, moral and spiritual issues facing humanity. It also must contribute to the national development through dissemination of specialized knowledge and skills. Being at the apex of the educational pyramid, it has a key role in producing teachers for the education system. To be able to perform these roles and functions, higher education institutions will have to reflect on their own current structures and their ability to function with efficiency and effectiveness as autonomous organizations". Recognizing the key roles of higher Education and considering the achievements of the system so far, it is evident that the system has been expanded quantitatively in terms of number of institutions, number of courses offered at the undergraduate and postgraduate levels and the number of students availing the facility of higher education. However, the expected quality output from the system is yet to be achieved.

Prof GD Sharma elaborated the current trends and issues with respect to the globalization and liberalization policies and their impact on education system. The focus of the paper was on the basic tenets of the WTO agreements for trade in services, current status of commitments by various countries and barriers to free trade. The General Agreement on Trade in Services (GATT), a legally enforceable framework for trade in all services including Education identified four mail modes of trade in education such as;

(a) Cross-broader Supply of Service includes any type of course that is Provided through distance education or the Internet, any type of testing service, and educational materials which can cross national boundaries.

(b) Consumption Abroad mainly involves that the education of foreign students and is the most common form of trade in educational services.

(c) Commercial Presence refers to the actual presence of foreign investors in a host country. This would include foreign universities setting up courses or entire institutions in another country.

(d) Presence of Natural Persons refers to the ability of people to move between countries to provide educational services.

The issues concerned for India in this context are the political economy, economic efficiency, center-state relationship, academics and sector competitiveness. The paper highlighted on the critical areas for concern in higher education posed questions like whether education be considered a s a tradable service in the international market and are we ready for it?

Prof Venkaiah presented the institutional profile of Dr BR Ambedkar Open University and focused on the technology and learning support strategies. BRAOU has successfully integrated technology in the learning process through the audio broadcasting, video telecasting and teleconferencing. In the recent past the media mixing in distance education programmes has become common and there is a need to make assessment to the effective utilization of the different media by the university and cost effectiveness of such programmes in terms of learning.

Prof Suryanarayana focused on Medical and Health Education and the need for broad based universities of health sciences. The concept of Rural University was well elaborated by Prof. Chalam who threw light on the necessary conditions for establishing an ideal rural university. Prof Krishna Rao and Prof Chalam discussed the group dynamics in the classroom. The meaningful learning would be possible when the classroom interaction is maximum. In this regard, teachers must know the psychological state of learners and e ablish student-teacher relationship. Prof. James Hall explained the concept of synchronicity as the simultaneous occurrence of subjective event and objective event having the same meaning. He pointed that the study of human sciences as a scientific study as it contains the qualities of measurability, systematic relevance and intrinsic human interest. Prof Jhansi discussed on the cumulative effect of *hatha yoga* on human needs. *Hatha yoga* is a system of *yoga* concerned with bodily postures, breathing exercises, procedures of sealing energy and purification exercises. It helps the individuals to fit for higher paths. Research revealed that *yoga* influenced the personality especially gaining control over the body and mind. It has an immense effect on physical and emotional planes of human beings.

In part two of the book, the writings and speeches of Prof Ramakrishna Rao were presented. These articles have dwelt with the multi dimensions of higher education. Prof Rao visualized the future demands of higher education and suggested a three fold strategy namely, subsidized, self supporting and further education streams. An integration of the above with suitable curriculum and method of transaction, vision 2020 with respect of higher education in India can be accomplished. Rao's writings about values in education brought out a new dimension. He highlights that *dharma* is the blue print truth and non-violence are the materials that would bind all our values to form the structure of human rights. Religious beliefs should be elaborated and understood in their relation to the perspectives of the individual and the demands of the circumstances. His writings on Indian identity and Psychology are highly thought provoking and they reflect the expertise of the author.

After thoroughly reviewing the book, we found that this book is certainly a resource material for scholars working in the area of higher education. It covered all the perspectives of tenth five-year plan of the University Grants Commission. Higher education should effectively promote sustainable human development with equity and social justice in a pluralistic and democratic social order and at the same time work for relevance with closer links with the work of work and ensure quality in teaching, research and business and community extension functions including life long learning.

This book is an attempt to highlight the viewpoints of Prof Rao in the area of higher education and other areas. This book presented wide range of perspectives of pedagogy, technology, distance education-globalization, human rights education, and socio-psychological dimensions of classroom behaviour. This will be an essential guide for a wide range of readers. For academicians, it is a reference book that provides conceptual clarity on Higher Education. For researchers, it is a compass that shows the direction and guides thinking process in formulating the research questions. For Educational Planners, it is a tool for analyzing the educational processes and perspectives. It is a comprehensive and unique report on Higher Education edited rigorously and systematicaly ❑

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THESES OF THE MONTH

A list of doctoral theses accepted by Indian Universities (Notifications received during February - March, 2003)

SOCIAL SCIENCES

Commerce

1. Aggarwal, Navdeep. **Market orientation and customer delivered value: A study of selected organisations.** Department of Commerce, Guru Nanak Dev University, Amritsar.

2. Bose, Jitendra Manindranath. **A critical study of management and organisation of advertising agencies with respect to Nagpur City.** (Dr A M Deshmukh), Department of Commerce, Nagpur University, Nagpur.

3. Daljit Kaur. **Capital structure and cost of capital: An interrelationship in case of selected Indian industries.** Department of Commerce, Guru Nanak Dev University, Amritsar.

4. Gupta, Manju. **Accounting standards and accounting practices: The Indian experience.** (Dr S P Kaushik), Department of Commerce, Dayalbagh Educational Institute, Agra.

5. Gupta, Ravi Kumar. **Determinants of capital structure in India: A study of selected corporate giants.** (Prof R Vinayak), Department of Commerce, Maharshi Dayanand University, Rohtak.

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1. Preference will be given to physically handicapped persons provided other things being equal as prescribed by UGC and reservation for ex-serviceman will be observed as prescribed by the State Government.
2. If the candidate from woman category is not avilable, the candidate from men category will be considered for selection as per Govt. Resolution No *संकिर्ण / 1096 / प्र.क. / 30 / का-2 dated* 1.8.1997 *for appointment.*
3. Reserved candidates who are domiciled outside the Maharashtra State will be treated as Open Category candidates.
4. The post of Reader at Advt. No. R-3/2003 shall be filled from SC category, if candidate not avilable shall be filled from ST category.
5. Those who are in service should apply through proper channel.
6. Incumbents shall be entitled to pensionary benefits as per rules prescribed by the Govt. of Maharashtra from time to time.
7. Canvassing in any form will be disqualification.

Prescribed application forms with details of qualifications, experience & other conditions etc., can be had on payment of **Rs. 200/-** (Non-Refundable) by **cash/Demand Draft** in favour of **President, Amravati University Employees Credit Co-operative Society,** Amravati alongwith self-adressed envelope (12" x 5") from the counter of Amravati University Employees Credit Co-operative Society, near Main Administrative Building at the University Campus, Amravati during office hours. **The application forms duly filled in should reach the undersigned on or before 10.6.2003** alongwith a self-addressed envelope (9" x 4"). Postal delay shall not be entertained.

Dr. P.S. Narkhede
REGISTRAR

NATIONAL INSTITUTE OF TECHNOLOGY

WARANGAL - 506 004 (Andhra Pradesh)
(Deemed University)

ADMISSION TO P.G. PROGRAMMES 2003-2004

Applications in the prescribed proforma are invited for admission to the following **P.G. Courses.**

M.TECH. COURSES

1. Geotechnical Engineering
2. Engineering Structures
3. Transportation Engineering
4. Water Resources Engineering
5. Remote Sensing & GIS *
6. Power Systems Engineering
7. Power Electronics & Drives
8. Manufacturing Systems Engineering
9. Computer Integrated Manufacturing *
10. Thermal Engineering
11. Advanced Manufacturing Processes *
12. Electronic Instrumentation
13. VLSI System Design
14. Industrial Metallurgy
15. Chemical Engg. (Computer Aided Process and Equipment Design)
16. Computer Science & Engineering

M.TECH. (BY RESEARCH)

In all Engg. Disciplines listed above **except** Computer Science & Engg., VLSI System Design and Programmes offered on Self-financed basis.

M.Sc. COURSES

1. M.Sc. (Applied Mathematics)
2. M.Sc. (Mathematics & Scientific Computing) *
3. M.Sc. (Tech.) Engineering Physics
4. M.Sc. (Industrial Chemistry) (Specialization in Dyes, Drugs, Pharmaceuticals and Pesticides) **
5. M.Sc. (Industrial Chemistry) (Specialization in Modern Methods of Chemical Analysis) *

M.C.A.

Admission is based on the rank obtained at **ICET-2003** conducted by S.V. University, Tirupati.

M.B.A. *

Only for Engineering Graduates

Admission is based on the marks obtained at the entrance examination to be conducted by the institute.

- ***Self-Financed course***

** ***(Only for candidates belonging to A.P. State)***

Gate qualification is not necessary for self-financed courses.

Non-GATE candidates without stipend are considered for **M.Tech. Industrial Metallurgy course only**, if there are no qualified GATE candidates.

The format of application and the relevant information like eligibility and selection criteria, reservation policy, entrance examination dates and syllabi details of fees etc. are available on the websites: **www.nitw.ernet.in** or **http://202.141.49.33**
http://www.geocities.com/nitw_1959
http://www.recwamericas.org

Interested candidates can download the application proforma from the above websites. No separate applications are kept for sale at the Institute.

Filled-in applications along with necessary documents and a crossed D.D. for Rs. 500/- (Rs. 250/- for SC/ST candidates) towards Registration Fee drawn in favour of ***Director, National Institute of Technology, Warangal*** payable at SBH, NIT Warangal Branch (Code No. 2149) should reach ***Assistant Registrar (Academic), NIT Warangal-506 004*** on or before the last date.

LAST DATE FOR RECEIPT OF FILLED IN APPLICATIONS:

For Courses other than M.C.A. : 09-06-2003 **For M.C.A. : 30-06-2003**

DIRECTOR

RASHTRIYA SANSKRIT VIDYAPEETHA

(Deemed University)

TIRUPATI - 517 507. (A.P.)

ADMISSION NOTICE – 2003-2004

The Vidyapeetha, established in 1961 was declared as a Deemed University on 1987. Recently the institution was awarded with the status of **"Centre of Potential in the Subject of Traditional Shastras"** by the U.G.C.

Applications are invited for admission into the following courses of Vidyapeetha during the academic year 2003-2004. Prescribed application forms along with prospectus can be obtained from the Vidyapeetha by hand, on paying Rs.30/- and by post for Rs.50/- (D.D. drawn in favour of the Registrar from SBI or Andhra Bank only) or by downloading from the sites http://rsvidyapeetha.ac.in, http://61.11.100.18, http://www.sansknet.org/rsvp. The downloaded filled in applications should accompany a DD for Rs. 50/- drawn in favour of Registrar, R.S.Vidyapeetha, Tirupati. The last date to receive the filled in applications, by the undersigned, is 16-06 -2003 for all courses. For Kasmiri migrants, the last date for receipt of filled in applications is 16-07-2003.

I. **PRAK SASTRI** (E.q. +2/Intermediate) Duration : 2 years Age:15-18 years (WITH COMPUTERS AS SPECIAL SUBJECT) Eligibility : (a) pass in OSSC/SSC/(b) Purva Madhyama(c) Sanskrit. Entrance Examination or equivalent with Sanskrit or without Sanskrit.

II a) (1) **SASTRI** (eq.B.A.)(with computer Appl/Science)Duration:3 years Age:17 years min.
Eligibility : Pass in Prak-Sastri/Upa-Sastri/Madhyama/Uttara Madhyama/Sahitya/Intermediate or equivalent with Sanskrit or without Sanskrit.

II b) **SASTRI** (Eq. B.A.) Vedabhashya Age : 17 years & Duration : 3 years.
Eligibility : Those who have completed Samhita Brahmana, Aruna and Kathaka and having knowledge of Sanskrit are eligible subject to passing of Entrance Test conducted by Vidyapeetha.

III. **B.A.**(I Elect. Sanskrit compulsory with Computer Applications/Science) Age 17 years minimum.

IV. **ACHARYA** : (eq. M.A.) Duration 2 years Age 20 years' minimum
Eligibility : Pass in Sastri/any degree course with Sanskrit as Main Subject/Language paper/or any equivalent examination. Subjects Offered : Sahitya/Vyakarana/Jyotisha (Phalita, Sidhanta) Nyaya/ Mimamsa/Advaita Vedanta/Visistadvaita Vedanta/Dvaita Vedanta/Vedabhashya/Temple Culture.

V. **SIKSHA ACHARYA** (eq.M.Ed.) Duration: 1 year Age: 21 years min.
Eligibility: Pass in Sastri/Degree and Shiksha Sastri(B.Ed) course with 50% aggregate marks. The admissions will be made on the basis of merit in the PSAT-2003.

VI. **VIDYAVARIDHI** (Eq.Ph.D) Entrance Test will be conducted on **6-7-2003**.
Eligibility : Any Acharya or equivalent examination with at least 55% marks and passing Entrance test. Candidates who have passed NET/SLET are exempted from attending the entrance test and they may apply directly for the course.

VII. **CERTIFICATE AND DIPLOMA COURSES IN TEMPLE CULTURE**
Duration: One year : Eligibility : For Certificate Course – Graduate/Equivalent exam.
For Diploma course – P.G./Equivalent exam / Degree and should have passed the certificate course in Temple culture.

VIII. **POST–GRADUATE DIPLOMA IN YOGA**
Eligibility : A pass in Degree examination from any recognized Universities, studied under 10+2+3 pattern..

- Scholarships will be awarded to the eligible students studying full time courses as per rules. Limited *Hostel facility is available for boys and girls separately.*

See the prospectus for more details.

RSV/Acd/2003-2004 REGISTRAR.

ANNAMALAI UNIVERSITY

Annamalainagar-608 002, Tamil Nadu, South India

ADMISSION NOTIFICATION

B.E.,B.E. (Part-Time), B.Pharm., D.Pham., M.E., M.C.A., M. Sc. (Engg.), M.S. (Engg.), M.Pharm., B.Sc., (Ag.) / B.Sc., (Hort) on Campus Programmes

Applications are invited for Admission to the following Programmes for the Academic Year 2003-2004.

1. B.E. (On Campus Programme) - Branches Offered:

(i) Civil (ii) Civil & Structural (iii) Mechanical (iv) Mechanical (ManufacturingEngineering) (v) Electrical & Electronics (vi) Electronics & Instrumentation (vii) Chemical Engineering (viii) Computer Science & Engineering *(ix) Information Technology (x) Electronics & Communication*

2. B.E. (Part-Time) - Branches Offered:

(i) Civil & Structural (ii) Mechanical (Manufacturing Engineering)
(iii) Electrical & Electronics

3. B. Pharm.,

4. D. Pharm.

5. M.E. - Programmes Offered (Full-Time)

i. Environmental Engineering
ii. Structural Engineering
iv. Energy Engineering & Management
v Manufacturing Engineering
vi Power System Engineering
vii. Process Control and Instrumentation Engineering
iii. Thermal Power Engineering
viii. Chemical Engineering
ix. Computer Science & Engineering

6. M.C.A. (Full-Time)

7. M.Sc. Engineering (Full-Time)

i. Software Engineering
ii Information Technology
iii. Computer Technology

8. M.S. Engineering (Full-Time)

i. Software Engineering
ii Information Technology
iii. Computer Technology

9. M.Pharm. (Full-Time) - Programmes Offered:

(i) Industrial Pharmacy (ii) Pharmacy Practice (iii) Quality Assurance

10. B.Sc. (Ag.) / B.Sc. (Hort.)

ELIGIBILITY : 1 B.E. DEGREE PROGRAMMES (Four Academic Years)

i A pass in H.Sc., (Academic) with Mathematics, Physics & Chemistry. *(OR)*
ii. A Pass in H.Sc., (Vocational Stream) with Mathematics/Physics and related vocational subjects. (OR)
iii. Diploma in any one of the Programmes Viz., Civil, Mechanical, Electrical, Electronics, Chemical and Computer Science & Engineering. (OR)
iv. ANY OTHER EQUIVALENT "EXAMINATION APPROVED BY THE ANNAMALAI UNIVERSITY with a minimum percentage of Marks as detailed below:

REQUIRED MINIMUM MARKS ACADEMIC STREAM VOCATIONAL STREAM & DIPLOMA HOLDERS :

Basic Qualification	OC	BC	MBC/DC	SC/ST
Higher Secondary - Academic/ Vocational and Diploma Holders	60%	55%	50%	Mere Pass

ELIGIBILITY: 2. B.E. (Part-Time)

A Pass in Diploma Course in the appropriate branch Civil, Structural, Production, Electrical & Electronics Engineering conducted by the State Board of Technical Education of Tamil Nadu or its equivalent examination with 3 years professional experience in a recognised industry or organisation after passing *the Diploma Examination.*

The admission is restricted to those working or residing within a radius of 75km from Annamalainagar. The application should be sent through their employers. However the advance copy with all documents complete in all respect should be received before the last date.
The application through proper channel is to be received before entrance test.

Minimum Experience as on 01.07.2003 - Three Years after passing Diploma Course Examination

B.E. (Part-Time)
ENTRANCE TEST/INTERVIEW
30-06-2003 F.N
at
ANNAMALAINAGAR

ELIGIBILITY : 3 B.Pham., DEGREE PROGRAMME (Four Academic Years)

i. A Pass in H.Sc Examination OR an equivalent examination with a minimum aggregate of 50% in Physics, Chemistry and Biology OR Botany & Zoology Mathematics/Biotechnology/ Computer Science. For SC/ST Candidates the minimum qualification is a pass in the above subjects
ii. *A Pass in Diploma in Pharmacy Programme* as per New *Educational* regulations of Pharmacy Council of India.
iii. A Pass in B.Sc., Degree in One Attempt with Physics, Chemistry and Mathematics/Biology subjects either at the Plus Two level OR at the Graduate level.

ELIGIBILITY 4. D.Pharm., PROGRAMME (Two Academic Years)

i. *A Pass in H.Sc Examination* OR *an equivalent examination* with Physics, Chemistry and Biology/ Botany & Zoology / Mathematics
ii. A Pass in B.Sc., degree with Physics, Chemistry and Biology/ Mathematics subjects either at the Plus Two level OR at the Graduate level

ELIGIBILITY 5. M.E., PROGRAMME

i.	**Environmental - Engineering**	-	B.E. (Civil) or B.E. (Civil & Structural) Graduates
ii.	**Structural Engineering**	-	B.E. (Civil & Structural) or B.E. (Civil) Graduates
iii.	**Thermal Power Engineering**	-	B.E. (Mechanical) or B.E. (Production) Graduates with at least one elective in Mechanical Engineering field
iv.	**Energy Engineering & Management**	-	B.E. (Mechanical) Graduates
v.	**Manufacturing Engineering**	-	B.E. (Production) Graduates or B.E. (Mechanical) Graduates with at least one Elective in production
vi.	**Power System Engineering**	-	B.E. (Electrical & Electronics) Graduates
vii.	**Process Control & Instrumentation Engg.**	-	B.E. (Electronics & Instrumentation) (Electrical & Electronics) (Electronics & Communication) (Control & Instrumentation) *Graduates*
viii.	**Chemical Engineering**	-	B.E. (Chemical) Graduates
ix.	**Computer Science & Engineering**	-	B.E./B.Tech /Computer Science & Engineering/Electrical & Electronics/ Electronics & Communication/Electronics & Instrumentation/Instrumentation & Control/Information Technology

ELIGIBILITY : 6 M.C.A. DEGREE PROGRAMMES

A Pass in a three years Bachelor's Degree with at least 55% in Part-III of any recognized University with Mathematics as compulsory subject at Plus Two Level or equivalent thereof. **For SC/ST Candidates:** A Pass in a three year *Bachelors Degree of any recognised University with Mathematics as* compulsory subject at Plus Two Level or equivalent thereof

ELIGIBILITY: 7. M.Sc. (Engg.) DEGREE PROGRAMMES

i. Software Engineering
A Pass in B.Sc. Degree Programme with at least 50% of Marks (Part-III) in Computer Science or Appliced Science - Computer Technology or Mathematics or Statistics or Physics or Electronics or B.E. in Computer Science & Engineering or Electrical or Electronics and Communication or Instrumentation.

ii. Information Technology and iii. Computer Technology

A Pass in B.Sc. Degree Programme with at least 50% of Marks (Part-III) in Computer Science or Applied Science - Computer Technology or Physics or Electronics or B.E. in Computer Science & Engineering or Electrical or Electronics and Communication or Instrumentation . **For SC/ST Candidates: A Pass in the above disciplines.**

ELIGIBILITY: 8. i. M.S. (*Software Engineering*)

A Pass in M.Sc. Degree Programme with at least 55% of Marks in Computer Science or Applied Science - Computer Technology or Mathematics or Physics or Electronics or Statistics or M.C.A. or B.E./B.Tech. or B.Pharm.

8. ii. M.S. (Information Technology) iii. M.S. (Computer Technology)

A Pass in M.Sc. Degree Programme in Computer Science or Applied Science - Computer Technology or Electronics or B.E./B.Tech. in Computer Science & Engineering or Electrical & Electronics or Instrumentation or Electronics & Communication or M.C.A. **Experience: At least 3 years Teaching experience at College/University level.**

ELIGIBILITY. 9. M. Pharm. PROGRAMMES

i. Industrial Pharmacy ii. Pharmacy Practice iii. Quality Assurance

A pass in B.Pharm. Degree Programme with not less than 55% of Marks of Annamalai University or any other University recognized as equivalent thereto by the Annamalai University. **For SC/ST Candidates: A Pass in B. Pharm. Degree *Programme*.**

ELIGIBILITY : 10. B.Sc.(Ag.) B.Sc.(Hort.) DEGREE PROGRAMMES (Four Academic Years)

i. A Pass in H.Sc. (Academic) with Biology / Botany and Zoology, Physics and Chemistry (OR) (ii) A Pass in H.Sc. (Vocational Stream) with Biology and related vocational Subjects (OR) (iii) ANY OTHER EQUIVALENT EXAMINATION APPROVED BY THE ANNAMALAI UNIVERSITY

REQUIRED MINIMUM MARKS FOR ACADEMIC STREAM

Subject/s or Group of Subjects	OC	BC	MBC/DC	SC/ST
Biology OR Botany & Zoology (put together)	60%	60%	55%	MERE PASS
Physics & Chemistry (put together)	60%	60%	55%	
Aggregate Marks out of 200	140	130	120	

REQUIRED MINIMUM MARKS FOR VOCATIONAL STREAM

Subject/s or Group of Subjects	OC	BC	MBC/DC	SC/ST
Biology	60%	60%	55%	MERE PASS
Vocational Subjects (Including theory & Practical) put together	60%	60%	55%	
Aggregate Marks out of 200	140	130	120	

MAXIMUM NUMBER OF ATTEMPTS FOR B.E./B.Sc. (Ag.) & B.Sc. (Hort.) PROGRAMMES:

Community	Age
1 SC/ST	No Age Limit
2 Others	21 Years
3 Diploma Holders	24 Years

Community	Maximum Number of		
	Attempts to Pass	Improvements	Appearances
SC/ST	Three	One	Four
Others	Two	One	Three

AGE LIMIT: (No request for relaxation of the age will be entertained)

B.Pharm. and D.Pharm., Programmes:

The Candidates should have completed the age of 17 Years as on 31st December 2003

GENERAL INSTRUCTIONS for B.E.. B.Sc. (Agri.) and B.Sc. (Hort.)

1. Candidates who have appeared for Entrance Examination conducted by the Annamalai University on 30th April / 01st May 2003 are only eligible.
2. Candidates who have not appeared for Entrance Examination are advised not to apply.
3. Applicants belonging to native of Tamil Nadu only will be considered for Admission.

GENERAL INSTRUCTIONS for B.Pharm.

1. Candidates who have appeared for Entrance Examination conducted by the Annamalai University on 02nd May 2003 are only eligible.
2. Candidates who have not appeared for Entrance Examination are advised not to apply.
3. A separate Interview for B.Pharm Candidates will be conducted only at Annamalainagar.

IMPORTANT DATES

Issue of Application Forms	**05.05.2003**
Last Date for issue/receipt of Application forms for B.E., B.Pharm., D.Pharm, B.Sc.(Ag.) and B.Sc.(Hort.) Programmes	**20.06.2003**
Last Date for B.E. Part-Time and all PG Programme	***09-06-2003***

ENTRANCE/INTERVIEW 29, 30-06-2003 only at ANNAMALAINAGAR

	ENTRANCE TEST	INTERVIEW
M.C.A.	**29-06-2003 AN**	**30-06-2003 FN**
M.Sc. (Engg.) (All Branches)	**29-06-2003 FN**	**29-06-2003 AN**
M.S.(Engg.) (All Branches)	*NO ENTRANCE EXAM.*	***29-06-2003 AN***
M.Pharm.	**30-06-2003 FN**	**30-06-2003 AN**
M.E. (All Programmes)	**30-06-2003 FN**	**30-06-2003 AN**

COST OF APPLICATION FORM

	SC/ST	Others
1. **B.E. (On campus Programme)**	**Rs.100/-**	**Rs.200/-**
2. **B.E. (Part-Time)**	**No Concession**	**Rs.300/-**
3. **B. Pharm.**	**No Concession**	**Rs.200/-**
4. **D. Pharm.**	**No Concession**	**Rs.100/-**
5. **M.E./M.C.A./M.Sc. (Engg.)/ M.S. (Engg.) /M.Pharm.**	**Rs.250/-**	**Rs. 500/-**
6. **B.Sc.(Ag.)/B.Sc.(Hort.)**	**Rs.100/-**	**Rs.200/-**

How to Apply: Application form and Prospectus can be obtained from **THE REGISTRAR, ANNAMALAI UNIVERSITY, ANNAMALAINAGAR - 608 002** from **05-05-2003** onwards on payment of prescribed fee noted above in Person OR by sending a Demand Draft obtained on or after **05-05-2003** drawn in favour of **THE REGISTRAR, ANNAMALAI UNIVERSITY, ANNAMALAINAGAR** from **ANY BANK**, payable at **CHENNAI** along with a self addressed stamped Thick Kraft envelope of size 30 cm x 24 cm (stamps affixed to the value of Rs 40/-) with the name of the Programme for which the application is required should be superscribed, boldly on the envelope. The Name of the Programme should be clearly indicated in the requisition, letter. The Name and Address of the Candidate and Programme for which *Application is made should be clearly indicated on the back side of the Demand Draft also.*

ISSUE OF APPLICATIONS IN THE UNIVERSITY CASH COUNTER: ONLY **DURING WORKING DAYS.**

(HOLIDAYS - PUBLIC HOLIDAYS, ALL SATURDAYS AND SUNDAYS). FOR MORE DETAILS REFER PROSPECTUS.

NOTE: The University will not be held responsible for any Postal delay. Application received after the due date will not be entertained under any circumstances. Hence, *the Candidates are advised to submit their* application well in advance.

Annamalainagar
Date: 01.05.2003
(Reference No.: 1028/K2/Advt. No. 5/2003

Dr. M. RATHINASABAPATHI
REGISTRAR

ANNAMALAI UNIVERSITY

Annamalainagar-608 002, Tamil Nadu, South India

ADMISSION NOTIFICATION

M.B.A., B. Ed., M.Ed., B.P.E., B.P.Ed. & M.P.Ed. On Campus Programmes

Applications are invited for Admission to the following Programmes for the Academic Year 2003-2004.

M.B.A.
ENTRANCE TEST
28-06-2003
INTERVIEW Informed Later

1.M.B.A.

Eligibility: Graduate in any discipline with a minimum of 50% marks in Part III
(An Entrance Examination/Interview will be conducted only at Annamalainagar)

2.B.Ed.

Eligibility: Candidates should have passed the Under Graduate Degree Examinations with any one of the following as main subjects in Part - III with minimum of 50% marks.
Tamil [B.A, B.Litt.,] English, History, Geography, Mathematics, Physics, Chemistry, Botany, Zoology & B Sc [Computer Science]

Post Graduate Candidates: M.A.[Economics] & M.Com.
In the case of SC/ST candidates a pass in the qualifying examination of the respective disciplines

AGE LIMIT: Should not have completed the age indicated below as on 1st July 2003.

OC-25years BC -27years MBC and SC/ST - 30 years

3.M.Ed.

Eligibility: 50% in B.Ed Degree Examinations or M.H.Ed Degree of this University or a degree examination in education of any other University recognized as equivalent thereto.

4. B.P.E. A pass in H.Sc. (10+2 Scheme) or any other equivalent examination thereto.
AGE LIMIT: *Should not have completed the age indicated below as on 1st July 2003*

OC - 20 years BC - 22 years MBC and SC/ST - 25 years

5. B.P.Ed.
Eligibility: A pass in any degree from a recognized University
AGE LIMIT: Should not have completed the age indicated below as on 1st July 2003

OC-25 years BC -27years MBC and SC/ST - 30 years

6. M.P.Ed.
Eligibility: A pass in B.P.Ed, or B.P.E.S or B.P.E. Examination from a recognised University

AGE LIMIT: Should not have completed the age indicated below as on 1st July 2003.

OC- 25 years BC - 27 years MBC and SC/ST - 30 years

COST OF APPLICATION FORM

	SC/ST	Others
1. M.B.A.	-Rs. 200/-	Rs 400/-
2. B Ed *	-Rs. 125/-	Rs. 250/-
3. M Ed..	-Rs. 50/-	Rs 100/-
4 BPE, BPEd. & MPEd	-Rs. 50/-	Rs 100-

IMPORTANT DATE

Issue of Application Forms	**05.05.2003**
Last Date for issue receipt of Application forms	**05.06.2003**
Date of Selection Test for B.Ed 25.06.2003 FN	

*Including Selection Test Fees

How to Apply: Application form and Prospectus can be obtained from **THE REGISTRAR, ANNAMALAI UNIVERSITY, ANNAMALAINAGAR - 608 002** from **05-05-2003** onwards on payment of prescribed fee noted above in Person OR by sending a Demand Draft obtained on or after **05-05-2003** drawn in favour of **THE REGISTRAR, ANNAMALAI UNIVERSITY, ANNAMALAINAGAR** from ANY BANK, payable at CHENNAI along with a self addressed stamped Thick Kraft envelope of size 30 cm x 24 cm (stamps affixed to the value of Rs 40/-) with the name of the Programme for which the application is required should be superscribed, boldly on the envelope. The Name of the Programme should be clearly indicated in the requisition, letter. The Name and Address of the Candidate and Programme for which Application is made should be clearly indicated on the back side of the Demand Draft also.

A separate Application is to be filled for each Programme

ISSUE OF APPLICATIONS IN THE UNIVERSITY CASH COUNTER: ONLY DURING WORKING DAYS

(HOLIDAYS - PUBLIC HOLIDAYS, ALL SATURDAYS AND SUNDAYS). FOR MORE DETAILS REFER PROSPECTUS

NOTE: The University will not be held responsible for any Postal delay. Application received after the due date will not be entertained under any circumstances. Hence, the Candidates are advised to submit their application well in advance.

Annamalainagar
Date: 01.05.2003 *(Reference No.. 1028/K2/Advt. No. 4/2003*

Dr. M. RATHINASABAPATHI
REGISTRAR

BRCM COLLEGE OF ENGINEERING & TECHNOLOGY

(A Division of Ballaram Hanumandas Charitable Trust)
BAHAL - 127 028 (DISTT BHIWANI) HARYANA
Phone: (01255) 265101-104 Fax: 265217, 265105
E-mail: brcmcollege@hotmail.com, Website: www.brcmcollege.org
(Approved by AICTE, Haryana Govt. & Affiliated to M.D. University)

REQUIRES

Professors and Asstt Professors: Computer Sc, Electronics & Comm, I.T, Mech Engg, Training & Placement Officer, Workshop Supdt.

Lecturers: Computer Sc, I.T, Electronics & Comm, Mech Engg, Maths, Physics, English.

Administrative & Supporting Staff: Deputy Registrar, Asstt System Administrator, Workshop Foreman, Instructors in Computer Sc & Engg.

Working knowledge of computer is pre-requisite for all posts. Qualifications and Pay as per AICTE norms. Perks include semi-furnished accommodation, free education for 2 children at BRCM Public School, free medical aid at campus Health Care Centre, Sponsorship scheme for higher studies, Research and Consultancy facilities in CAD/CAM/PCB/Hardware Labs.

Please apply on plain paper with attested copies of certificates/testimonials, Passport size photograph and a para in your own handwriting not exceeding 200 words on "My Aim in Life" superscribing on the envelope "Application for the post of ....

within 10 days.

Director

ANNAMALAI UNIVERSITY

RAJAH MUTHIAH INSTITUTE OF HEALTH SCIENCES

Annamalainagar - 608 002, Tamil Nadu, South India

ADMISSION NOTIFICATION

M.B.B.S., B.D.S., B.P.T., B.O.T., BSc. (Nursing), M.P.T., M.Sc. (Nursing),
PG Degree/Diploma in Medicine & M.D.S. On Compus Programme

Applications are invited for Admission to the following Programmes for the Academic Year 2003-2004.

1. **M.B.B.S.** - **(Bachelor of Medicine & Bachelor of Surgery)**
2. **B.D.S.** - **(Bachelor of Dental Surgery)**
3. **B.P.T.** - **(Bachelor of Physiotheraphy)**
4. **B.O.T.** - **(Bachelor of Occupational Therapy)**
5. **B.Sc. (Nursing)** - **(Bachelor of Science) - (Nursing)**
6. **M.P.T.** - **(Master of Physiotheraphy)**

Branches Offered: (i) Orthopaedic Conditions (ii) Neurological Conditions (iii) Cardio-respiratory Conditions (iv) Paediatric Conditions (v) Sports Physiotheraphy.

7. ***M.Sc. (Nursing)*** - ***(Master of Science - Nursing)***

Branches Offered: (i) Medical Surgical Nursing (ii) Child Health Nursing (iii) Maternity Nursing (iv) Community Health Nursing

8. **M.D./M.S./PG DIPLOMA PROGRAMME**
   PG Degree Programmes - **M.D. General Medicine/Paediatrics/ Anaesthesia/Obstetrics & Gynaecology/Radio Diagnosis/ Dermatology, Venerelogy & Leprosy/General Surgery/ Opthalmology/Otorhinolaryngology/Orthopaedics/Anatomy/ Physiology/Biochemistry/Pathology/Microbiology/Pharmacology/ Community Medicine, PMR**
   PG Diploma Programmes - **D.C.H./D.A./D.G.O./D.ORTHO/D.O./ D.L.O./D.M.R.D., D.D.V.L., D.C.P., D.P.M.R.**
9. **M.D.S.** - **(Master of Dental Surgery)**

Branches Offered: (i) Oral & Maxillofacial Surgery (ii) Periodontia (iii) Pedodontia (iv) Orthodontia.

ELIGIBILITY: 1. M.B.B.S. / 2. B.D.S. Degree Programmes

Any Candidate who is a Citizen of India with the following Academic Qualification can apply.

(i) A pass in H.Sc. (Academic), Examination with Biology OR Botany & Zoology, Physics and Chemistry. [OR] (ii) Any other equivalent Examination approved by the Annamalai University with a minimum percentage of marks as detailed below. **REQUIRED MINIMUM MARKS**

Subject or Group of Subject	OC	BC	MBC/DC	SC/ST
Biology OR Botany & Zoology (put together)	60%	60%	55%	40%
Physics	60%	60%	55%	40%
Chemistry	60%	60%	55%	40%
Aggregate Marks out of 200	140	130	120	80

ELIGIBILITY: 3. B.P.T. / 4. B.O.T. Degree Programmes

A pass in H.Sc.(Academic), Examination with Physics, Chemistry & Biology or equivalent examinations accepted by Annamalai University

ELIGIBILITY: 5. B.Sc. (Nursing) Programme (Unmarried Female Candidates)

A pass in H.Sc. (Academic), Examination with Physics, Chemistry & Biology or equivalent examinations accepted by Annamalai University
Age Limit: Should have completed 17 years on 31st December 2003 and should not be over 21 years

ELIGIBILITY: 6. M.P.T. Programmes

Candidates seeking admission to the First Year of the M.P.T Programme must have acquired the B.P.T Degree of Annamalai University (OR) a Degree of any other University recognized as equivalent there to by this University

ELIGIBILITY: 7. M.Sc. (Nursing) Programme

(i) Passed B.Sc. Degree in Nursing of this University or any other University accepted as equivalent thereto, (ii) Should have registered with the State-Registration Council of Nursing and Midwifery, (iii) Basic B.Sc. Nursing graduates should have two years of teaching-experience in a Teaching Hospital or in a College or in a School of Nursing or in Community Health Programme after graduation. (iv) Post Certificate in B.Sc. Nursing graduates need not have two years of experience after graduation for admission to M.Sc. Nursing Programme. They may be admitted to M.Sc. Nursing soon after the graduation in any branch of study. (v) **The male candidates are not eligible for admission to Branch - III (i.e. Maternity Nursing) irrespective of their experience in these areas.**

ELIGIBILITY: 8. P.G. Degree/Diploma Medicine Programmes

(i) The candidates seeking admission to the Post-graduate Degree/Diploma Programmes should be citizens of India and have permanent registration certificate. *(ii) They should possess M.B.B.S Degree of the University recognized as equivalent to the M.B.B.S* Degree of Annamalai University. (iii) Only those who have completed Compulsory Rotatory Residential Internship on or before the date of Entrance Examinations (i.e on 05.07.2003) are eligible for admission. (iv) **The duration of Post-graduate Degree Programme is three years and that of PG Diploma programmes is two years.**

Entrance Test	**INTERVIEW**
05-07-2003	**05-07-2003 A.N. and 06-07-2003 F.N.**

ELIGIBILITY: 9. M.D.S

(i) Candidates must have a degree of B.D.S. of 5 Years duration (OR) an equivalent qualification recognized by Dental Council of

India. (OR) Should have completed one year of C.R.R.I. in a recognized Dental Institution (OR) three years in private practice in case the candidate has completed B.D.S. of 4 years duration (Old Regulation), (ii) Must have registered with any State Dental Council in the Country as a Registered Dental Practioner recognized by Dental Council of India.

MAXIMUM NUMBER OF ATTEMPTS FOR M.B.B.S./B.D.S./B.P.T./B.O.T./B.Sc. (Nursing) PROGRAMMES:

Community	Maximum Number of		
	Attempts to Pass	Improvements	Appearances
SC/ST	Three	One	Four
Others	Two	One	Three

AGE LIMIT: (No request for relaxation of the age will be entertained)

The candidates should have completed the age of 17 Years as on 31st December 2003 for M.B.B.S./B.D.S./B.P.T./B.O.T./B.Sc.(Nursing) Programmes.

GENERAL INSTRUCTIONS for M.B.B.S. / B.D.S. / B.P.T. / B.O.T. / B.Sc. (Nursing)

1. *Candidates who have appeared for Entrance Examination conducted* by the Annamalai. University on 02nd May 2003 are only eligible.
2. Candidates, who have not appeared for Entrance Examination are advised not to apply.
3. A separate Interview for, each Programme will be conducted only at Annamalainagar.

COST OF APPLICATION FORM

1. MBBS	**- Rs. 750/-**	**6. MPT***	**- Rs. 500/-**
2. BDS	**- Rs. 500/-**	**7. M.Sc. (Nursing)**	**- Rs. 500/-**
3. BPT	**- Rs. 250/-**	**8. M.D/M.S/PG Diploma***	**- Rs. 760/-**
4. BOT	**- Rs. 250/-**	**9. M.D.S.***	**- Rs. 700/-**
5. B.Sc. (Nursing)	**- Rs. 250/-**		

* Marked including Entrance Examination Fees

How to Apply: Application form and Prospectus can be obtained from **THE REGISTRAR, ANNAMALAI UNIVERSITY, ANNAMALAINAGAR-608 002** from **05-05-2003** onwards on payment of prescribed fee noted above in Person OR by sending a Demand Draft obtained on or after **05-05-2003** drawn in favour of **THE REGISTRAR, ANNAMALAI UNIVERSITY, ANNAMALAINAGAR** from **ANY BANK**, payable at **CHENNAI along with a self addressed stamped** Thick Kraft envelope of size 30 cm x 24 cm (stamps affixed to the value of Rs.40/-) with the name of the Programme for which the application is required should be superscribed boldly on the envelope. The Name of the Programme *should* be *clearly* indicated in the requisition letter. The Name and Address of the Candidate and Programme for which Application is made should be clearly indicated on the back side of the Demand Draft also.

IMPORTANT DATES	**All Programmes except PG Degree/PG Diploma**	**PG Degree/Diploma**
Issue of Application Forms	05.05.2003	14.05.2003
Last Date for issue/receipt of Application forms	20.06.2003	16.06.2003

ISSUE OF APPLICATIONS IN THE UNIVERSITY CASH COUNTER: ONLY **DURING WORKING DAYS.**

(HOLIDAYS - PUBLIC HOLIDAYS. ALL SATURDAYS AND SUNDAYS).

FOR MORE DETAILS REFER PROSPECTUS.

NOTE: The University will not be held responsible for any Postal delay. Application received after the due date will not be entertained under any circumstances. Hence, the Candidates are advised to submit their application well in advance.

Annamalainagar
Date: 01.05.2003

Reference No. : 1028/K2/Advt. No.6/2003

Dr. M. RATHINASABAPATHI
REGISTRAR

SHRI LAL BAHADUR SHASTRI RASHTRIYA SANSKRIT VIDYAPEETHA

(DEEMED UNIVERSITY) KATWARIA SARAI, NEW DELHI-110016

ADMISSION NOTICE FOR **SHIKSHA SHASTRI (B.Ed.) 2003-2004**

Shri Lal Bahadur Shastri Rashtriya Sanskrit Vidyapeetha is a premier institution imparting education in various branches of Sanskrit. The Vidyapeetha also conducts one year Shiksha Shastri (B.Ed.) course duly recognised by **National Council for Teacher Education (NCTE)** New Delhi. Applications on prescribed forms are invited for **Pre Shiksha Shastri Test (PSST 2003)** to be held on 22.6.2003 in Delhi for 180 numbers of seats.

Eligibility:

(a) Shastri / B.A. (with Sanskrit as one of the main subjects) or equivalent examination recognised by UGC with 45% marks in aggregate in 10+2+3 pattern of education, *or*

Acharya / M.A. (Sanskrit) recognised by U.G.C with minimum 45% marks in aggregate, *or*

Acharya 1st year / M.A. (Sanskrit) 1st year / Bridge Course examination of one year duration recognised by the UGC with minimum 45% marks in aggregate at graduate level in 10+2+2 or 11+3 pattern of education.

(b) Must have studied atleast one school subject / language at graduate level in addition to Sanskrit.

Note : Candidates appearing in the qualifying examination are also eligible to apply. However, their admission to the course will be subject to securing 45% marks in aggregate in the qualifying examination.

Relaxation:

Relaxation of 5% marks in eligibility will be given to the candidates belonging to SC/ST/Handicapped categories.

Age: 20 years minimum as on 1.10.2003.

How to apply ?

Candidates may obtain the information bulletin-cum-application form from the office of the Vidyapeetha on payment of Rs. 550/- (Rupees five hundred fifty only), in cash on all working days from 12.5.2003 to 13.6.2003.

Application form can also be obtained by Regd. post by sending a Demand Draft of Rs.600/- (Rupees six hundred only) on any Nationalised Bank payable at Delhi in favour of Registrar, S.L.B.S.R.S. Vidyapeetha, New Delhi alongwith a Self-addressed envelope (24x30 cm.). Last date for obtaining application form by post is 10.6.2003.

The last date of submission of duly filled-in application forms is 16.6.2003. Applications received after last date will not be accepted.

ADMISSION NOTICE FOR VIDYA-VARIDHI(PH.D.)-2003

For admission to Vidya-Varidhi (Ph.D), programme in various disciplines of Sanskrit Shastra starting from Academic Session-2003, a written test will be held on 20.7.2003 at Vidyapeetha. Interested candidates may obtain information bulletin alongwith application form, from 15.5.2003 to 14.7.2003 by paying Rs. 100/- in cash or sending a demand draft of Rs.150/- on any Nationalised Bank at Delhi in favour of Registrar, SLBSRS Vidyapeetha, New Delhi alongwith self-address envelope(24x30cm). The last date of submission of duly filled-in application form is 15.7.2003.

Dr. Dinesh (Registrar)

JAIN VISHVA BHARATI INSTITUTE

(Deemed University)

Ladnun-341 306 (Nagaur-Rajasthan)

(Deemed to be University under Section 3 of UGC Act, 1956)

ADMISSION NOTICE ; 2003-2004/01

REGULAR COURSES

P.G. COURSES: (1) M.A. Jainology and Comparative Religion & Philosophy (2) M.A. Prakrit and Jain Agam (3) M.A/M.Sc in Science of Living, Preksha Meditation & Yoga (4) M.A. Non-violence and Peace (5) M.S.W. (Master of Social Work)

U.G. COURSES: (1) **B.S.W.** (Bachelor of Social Work) (2) **B.A.** (Only for women) **Subjects:** (1) Jainology (Compulsory) (2) Agam Vidya and Prakrit Literature (3) Hindi Literature (4) Non-violence and peace (5) Science of Living (6) Sanskrit (7) English Literature (8) Political Science (9) Information & Communication Technology (Computer)

Eligibility: For **PG Courses:** 10+2+3 or its equivalent with 50% marks in aggregate; For UG Courses: 10+2 or its equivalent with 50% marks. (A relaxation of 5% of marks is allowed for SC/ST/OBC/PH/Women candidates) Hostel facilities both for Boys & Girls. Attractive stipend available for first 4 P.G. Courses.

THREE-MONTH CERTIFICATE COURSE in Preksha Meditation, Science of Living and Yoga Shiksha. **Eligibility:** 10+2. Candidates having Yoga experience will be given preference.' **First Course:** July-Sept., 2003; **Second Course:** Oct.-Dec., 2003; **Third Course:** Feb. to April. 2004.

CORRESPONDENCE COURSES

P.G. COURSES:

(1) M.A. in Jainology and Comparative Religion and Philosophy;
(2) M.A/M.Sc in Science of Living in Preksha Meditation and Yoga.

Eligibility: 10+2+3 or its equivalent from any recognized University.

BRIDGE COURSE (One Year) : For those who are not graduate under 10+2+3 scheme and are interested in taking admission in P.G. courses of J.V.B.I

U.G. COURSE: (B.A) Compulsory Subjects: 1. General Hindi or General English (Only in the first year) 2. Jainology or Jainism and other Philosophic Systems; **Optional Subjects (Any two):** 1. Agam Vidya and Prakrit Literature; 2. Hindi Literature; 3. Science of Living; 4 Non-violence and peace 5. Sanskrit; 6. English Literature;

Eligibility: 10+2 or its equivalent or through B.A. Entrance Test.

B.A. Entrance Test: For those who are not 10+2 or do not have any formal qualification and completing the age of 18 years on 01.08.2003. The entrance test will be held on 18th -19th August 2003. It will consist of 2 papers: Paper 1: General Hindi or General English; Paper 2: General Knowledge. Last Date for receipt of Application Form 02nd June, 2003; **Admission Fee:** Rs. 400/-. The pass outs of Entrance Test will be eligible to take admission in B.A. 1st year session 2003-2004.

CERTIFICATE COURSE: Understanding Religion **Time:** 04 Months **Eligibility:** 10+2

THREE-MONTH CERTIFICATE COURSE: Training in Non-violence First Course: Aug.-Oct., 2003; **Second Course:** Oct.-Dec., 2003; **Eligibility:** 10+2 or its equivalent

Application Form: (a) Application Forms for Entrance Test and Certificate courses can be obtained free of cost by hand, if by post, by sending a self-addressed stamped envelop of Rs 27/-, (b) For other courses Prospectus along with Admission form can be obtained by hand on payment of Rs.50/- or by sending **D.D. of Rs. 75/-** in favour of **Registrar, Jain Vishva Bharati Institute, Ladnun.** Last date of Acceptence Admission form for Regular Courses **UG-25 June, 2003, PG-10 July, 2003** and **Correspondence Course 13th August, 2003.** Tel. 01581-222230, 222110; Fax: 01581-222116; e-mail: registrar@jvbi.org

(Dr. J. R. Bhattacharyya)
REGISTRAR

VASANTDADA SUGAR INSTITUTE

Manjari (Bk)., Dist. Pune 412 307

Phone No. : 6993988, 6993994, Fax No. : 020-6992735
E-mail : vsilib@giaspn01.vsnl.net.in, Website : www.vsisugar.com

VSI provides an excellent opportunity to the Science and Engineering graduates and diploma holders for the development of their career in sugar and allied industries through the following Post Graduate Diploma and Certificate courses.

POST GRADUATE DIPLOMA COURSES

1.	Sugar Technology	2½ years	B.Sc. with Phy., Chem., Maths, or B.E. (Chem. Engg.) or equivalent.
2.	Sugar Instrumentation	1½ years	B.Sc. with Phy., Chem., Maths, or Electronics or Graduate in Electrical or Electronics Engineering.
3.	Industrial Fermentation and Alcohol Technology	1½ years	B.Sc. with Chem./Microbiology or B.E. (Chemical Engineering)
4.	Sugar Engineering Diploma	1½ years	B.E. (Mech./Elect./Chem.)
5.	Environmental Science	2 years	B.Sc.or B.Sc. (Agri.)

CERTIFICATE COURSES

1.	Sugar Engineering	1 year	Diploma in Mech./Elect./Chem. Engineering with minimum one year experience in sugar factory.
2.	Sugar Boiling	6 months	S.S.C. with min. 2 years experience in sugar factory.
3.	Juice Supervision	6 months	S.S.C. with min. 2 years experience in sugar factory.

- **HIGHLIGHTS**
- Qualified & experienced faculty of teaching in different subjects of specialization of Sugar Industry.
- Excellent infrastructural facilities, well equipped laboratories, computer center, internet facilities.
- Courses recognized by Govt. of India.
- Environmental Science course has been recognized as M.Sc. equivalent.

For full details and application forms please refer to the Prospectus 2003-2004, copies of which can be obtained **from REGISTRAR OFFICE on payment of Rs. 150/- in person or by demand draft favouring VASANTDADA SUGAR INSTITUTE payable at PUNE.** Last date for the receipt of completed application forms: **20th June, 2003.**

P. L. Kulkarni
REGISTRAR

NATIONAL LAW SCHOOL OF INDIA UNIVERSITY

Nagarbhavi, Bangalore-560 072

Phone No. : (080)3211010, Fax : (080)3217858
E-mail : Mbl@nls.ac.in

The NLSIU proudly announces the launching of P.G. Diploma course in Intellectual Property Rights, by Correspondence / Distance Education Mode. This is in addition to earlier existing Post Graduate Degree / Diploma courses -

1. **Master of Business Laws** - 2 year Programme
2. **Diploma in Human Rights** - 1 year Diploma Programme
3. **Diploma in Medical Law and Ethics** - 1 year Diploma Programme
4. **Diploma in Environmental Law** - 1 year Diploma Programme

For all the above courses any graduate is eligible to seek admission. For getting the application and the Prospectus / Handbook, **send a DD for Rs. 300/- drawn in favour of Registrar, NLSIU, Bangalore,** to the Co-ordinator, Distant Education Department, NLSIU, Nagarbhavi, Bangalore-560 072, clearly mentioning the name of the course.

Admissions are open. Last date for admission is **30.6.2003**. For further details you can visit our site: **www.nls.ac.in**

REGISTRAR

UTKAL UNIVERSITY OF CULTURE

Sardar Patel Hall Complex, Unit-2, Bhubaneswar – 751009
Post Box No. – 4, G.P.O., Bhubaneswar - 751 001. Orissa.
Visit us at: www.utkaluniversityculture.com
Ph: (0674) 2535484; Fax: (0674) 2535486; Email: culture@sancharnet.in

ADVERTISEMENT

Applications are invited in prescribed forms from Indian Nationals for the following Posts.

Sl No.	Departments	Name of Posts	No. of Posts	Qualifying degrees
1.	Culture Studies	Professor	1	M.A. in Culture Studies, Sociology, Anthropology, Literary Studies.
		Reader	1	
		Lecturer	1	
2.	South & South East Asian Studies	Professor	1	M.A. in South Asian Studies/ South East Asian Studies, Political Science, International Relations.
		Reader	1	
		Lecturer	1	
3.	Cultural Heritage & Conservation	Professor	1	M.A. in Museology and Archival Studies, Ancient History and Archaeology, Field experience in Conservation, Archaeology, etc.
		Reader	1	
		Lecturer	1	
4.	Orissan Studies	Professor	1	M.A. in Oriya with specialisation in Orissan Literary History, Sanskrit Studies, Art History, Aesthetics (Western/Indian/Orissan), Performing Art with special reference to Orissa.
		Reader	1	
		Lecturer	1	
5.	Jaina Chair	Scholar in Jaina Chair	1	MA. in Jainology/Prakrit and Jaina Specialisation in Jaina Philosophy, Religion, Art and Prakrit Literature.

Essential Qualifications (As per U.G.C. norms)

Lecturer: Scale of Pay: Rs. 8,000/- - Rs. 13,500/-. A good academic record with at least 55% at the Master's Degree level in the subjects indicated above from any recognised Indian university or an equivalent degree from a foreign University with NET clearance. Ph.D would be preferred.

Reader: Scale of Pay: Rs. 12,000/- - Rs. 18,300/- Good academic record with Ph.D or equivalent published work with 8 years experience of teaching and/or research including research up to 3 years.

Professor: Scale of Pay: Rs.16,400/—Rs.22,400/-. An eminent scholar with Ph. D. or published work of high quality with 10 years of experience in Post graduate teaching and/or research at University/National level institutions including experience of guiding research at Doctoral level.

Scholar in Jain Chair: Rs. 15,000/- Consolidated). An eminent scholar in Jainism with published work of high quality, actively engaged in research with 10 years of experience in Post-graduate teaching and/or post doctoral research at University/National level institutions including experience of guiding research at doctoral level Retired/retiring scholars from Universities/Institutions or eminent persons in the field will also be considered.

All the above posts except Scholar in Jaina Chair will carry usual DA and Allowances to be sanctioned by State Govt. from time to time.

Persons with teaching or research experience in inter-disciplinary areas will be given preference.

Candidates who fulfil the above requirements may apply for application forms and other details with a **Demand Draft** of Rs. 150/- (Rupees one hundred fifty only) for collecting forms by hand or with Rs. 175/- (Rupees one hundred seventy five only) by post drawn in favour of **Utkal University of Culture, payable at Bhubaneswar** along with a stamped self-addressed envelope.

Candidates already in service should submit their applications through proper channel. An advance copy may be sent directly to the University.

All applications should be submitted in seven copies (7 copies). Candidates desirous of applying for more than one post, must apply separately.

Application forms can be obtained from University Office during working hours. LAST DATE OF RECEIVING COMPLETE APPLICATION FORMS IS 17.6.2003. Applications received after stipulated date or incomplete in any respect will not be entertained and no further correspondence will be made in this regard.

University reserves the right to call only such applicants for the interview, who would be found eligible after scrutiny of their applications, or cancel the recruitment process without assigning reasons thereof or make only such number of appointments on consolidated remuneration basis. In case of not finding suitable candidates for posts of Professor/Reader, the selection committee may consider appointing him/her in the next lower grade.

Sd/- REGISTRAR

BARKATULLAH UNIVERSITY

(Accredited by NAAC with four star)

BHOPAL 462 026 M.P.

ADMISSION NOTICE 2003-2004

Applications are invited for admission to the following courses

S.No.	Department	Name of Courses	No of Seats		Duration	Eligibility
			Reg.	Self Fin.		
1	Arabic	M.A Arabic	10	-	2 years	Graduate with 50%
2	Persian	M.A Persian	10	-	2 years	Graduate with 50%
3	Comparative Languages & Culture	M.A Sanskrit	15	-	2 years	Graduate with 50%
		M.A Linguistics	10	-	2 Years	Graduate with 50%
		M Phil Comparative Linguistics	15	-	1 Year	M.A. in any Language with 55% Marks
4	Commerce	M Com (Financial Management)	40	-	2 Years	B.Com with 50% Marks
		Master in Personal Management	-	40	2 Years	Graduate with 50%
		M.Phil Commerce	25	-	1 Year	M Com 55% Marks with 50% Marks in B.Com & 10+2
5	Law	L.L.M	20	10	2 years	L.L.B with 60% Marks
		B.A. L.L.B (Hons.)	-	50	5 years	10+2 with 40% Marks
6	Regional Planing and Economics Growth	M.A. Economics (RPEG)	30	-	2 Years	Graduation with 50% marks
		M Phil Geography	10	-	1 Year	Post Graduation with 55%
		M Phil Economics	15	-	1 Year	Post Graduation with 55%
		P.G. Diploma in Environmental Management and Sustainable Development	-	30	1 Year	M Sc /B.E./M.A. Social work with 50%
7	Sociology	M.A. Sociology	30	-	2 Years	B.A. with 50% Marks
		M.A. in Social work	-	30	2 Years	B.A./B.Sc. with 50% Marks
		M.Phil in Sociology	25	5	1 Year	M.A. Sociology with 55%
8	Psychology	M.A. Psychology	15	-	2 years	B.A./B.Sc. with 55% Marks
		M.Phil Psychology	10	-	1 Year	M.A. Psychology with 55% Marks
		P.G. Diploma in Human Resource Development	-	30	1 Year (Part time)	M.A./B.E./M.B.B.S./Graduation with 2 years work Experience, 2nd Division
		P.G. Diploma in Guidance and Counseling	-	30	1 Year (Part Time)	M.A. Psychology or Social Science with 50% marks
9	Yoga	M.A. in Yoga Science	-	30	2 Years	Graduation & Dip. In Yoga Science. Or Graduation with Yoga Subject with 50%
		P.G. Diploma in yoga Science	-	45	1 Year	Graduation with 50%
		Certificate in Yoga Science	-	40	3 Months	10+2 Pass
10	Bio-Science	M.Sc. Bio-Science	15	5	2 Years	B.Sc. in Bio Group with Chemistry 50% marks in theory
		M.Phil Bio-Science	12	-	1 Years	M.Sc. Life Science with 55% in aggregate
11	Genetics	M.Sc. Genetics	10	5	2 Years	B.Sc. Bio Group with 50% marks in theory
12	Limnology	M.Sc. Limnology	10	10+5(NRI)	2 Years	B.Sc. Bio Group with 50% in theory
		M.Sc. Aquatic Environmental Science	-	20+5(NRI)	2 Years	B.Sc. Bio Group with 50% in theory
13	Micro-Biology	M.Sc. Micro-Biology	-	20	2 Years	Graduation in Bio Group with 50% in theory
14	Biotechnology	M.Sc. Biotechnology	10	7+3(NRI)	2 Years	Graduation in Bio Group with 50% In theory
15	Applied Aquaculture	M.F.Sc. Applied Aquaculture	-	30+5(NRI)	2 Years	Graduation in Bio Group with 50% In theory
16	Geology	M.Sc. Applied Geology	15	-	2 Years	B.Sc. in Geology with 50%marks in theory
		M.Sc. Tech. Remote Sensing	10	5	1 & ½ Year	M.Sc. in Geology or M.Tech. with 55% aggregate Marks
17	Computer Science	M.Sc. Computer Science	-	20+5(NRI)	2 Years	B.Sc. Maths/B.C.A. with 50% in theory
		M.Sc. Information Technology	-	20+5(NRI)	2 Years	B.Sc. Maths/B.C.A. with 50% in theory
		M.C.M.	-	25+5(NRI)	2 Years	Graduation with 50% marks
18.	Physics	M.Sc.(Physics)	30	-	2 Years	B.Sc. with Physics
		M.Tech. (Material Science)	10 Gat	-	2 Years	M.Sc Physics, B.E., B.Tech.
19	Electronics	M.Sc.(Electronics)	25	-	2 Years	B.Sc. in Physics, Chemistry, Electronics, Maths, Statistics
20.	Adult Education	M.A. Extension Education & Rural Development	20	-	2 Years	Graduation with 50%
		M.A. Population Education	-	20	2 Years	Graduation with 50%
		Diploma in Population Education	30	-	1 Year	Graduation with 50%
21	Physical Education	M.P.Ed.	30	-	2 Years	Graduation in Physical Education with 50%
		B.P.Ed.	50	-	1 Year	Graduation with 45%

Entrance test, Counselling and Personnel interview to be conducted by the concerned Department for details see Hand Book 2003-2004.

Application form and Hand Book for admission to the above courses can be obtained from the respective Teaching Departments by sending DD. of 200/- drawn in favour of Registrar, Barkatullah University, Bhopal. Postal charges Rs.50/- extra for Speed Post. Counter sale of the form is also available from the Teaching Departments.

Last date for submission of application form is 30th June 2003. To be sent to the respective Heads of the Teaching Departments.

A candidate is required to fill separate form for each course (excepting for courses in Computer Science, for which option is to be stated in Application form), the candidate will have option to select any one course if qualified for more than one course.

Details of information, fee structure etc. available in the Hand Book (2003-2004).

Candidates are advised to ensure their eligibility. Their candidature shall be cancelled at any time if found ineligible.

Reservation of the seats for admission is as per Govt. rules.

REGISTRAR
Ph: (0755) 2587103

CLASSIFIED ADVERTISEMENTS

Dattijirao Kadam Technical Education Society's

KREEDA MAHARSHI MEGHNATH NAGESHKAR COLLEGE OF PHYSICAL EDUCATION

At. Post. Tardal, Tal: Hatkanangale,
Dist: Kolhapur-416121

(Affiliated to Shivaji University, Kolhapur)

WANTED

Applications are invited from eligible candidates for the following post.

Designation	Total Post	Open Post	Reserved Post
Principal	1	1	--

Note:

1. For the post of Principal, Ph. D. or equivalent **published** work and a minimum experience of 10 years (for Principal of Reader's grade) or 15 years (for Principal of Professor's grade) of teaching/Research in Universities Colleges and other Institutions of Higher Education is essential.
2. Educational Qualifications, Pay Scales and Service Conditions will be as per rules of Shivaji University, Kolhapur.
3. Those who are already in service should apply through proper channel.
4. Incomplete application will not be entertained.
5. Apply giving full particulars **within a month** from the date of publication of this advertisement to the Hon. Secretary, D.K.T.E. Society's, Rajwada, Ichalkaranji-416115.

HON. SECRETARY VICE-CHAIRMAN
CHAIRMAN

Dattajirao Kadam Technical Education Society, Ichalkaranji

WANTED

Applications are invited for the following posts in **St. Joseph's Training College, Mannanam, Kottayam-686 561**. These *permanent vacancies are in Open Quota.* Qualifications and age as per U.G.C. / University regulations.

1. Lecturer in General Education (one post)
2. Lecturer in Physical Education (one post)

The candidates may apply **within one month** to the Principal. The application forms can be had *from the college office* on payment of Rs.250/- (Rs.25/- additional if by post)

15-5-2003 PRINCIPAL.

ST.GEORGE COLLEGE ARUVITHURA

(Accredited by the NAAC at the Four Star Level)

Aruvithura P.O. 686122. Erattupetta, Kerala
E-mail: aasebastianl@satyam.net.in;
Tel.& Fax: 0482-272220, 0482-273533 (Res)

WANTED

Applications are invited from qualified grade lecturers for appointment as Principal at this college. Age, qualifications *and experience as per University Status.* Apply **within thirty days**. Application can be had from the college office on payment of Rs. 250/-

MANAGER
St. George's College,
Aruvithura P.O.-586122.
Erattupetta, Kerala

ST. XAVIER'S COLLEGE OF ARTS, SCIENCE & COMMERCE

Mapusa - Goa

Applications are invited for the following posts:-

For Undergraduate Departments:

1. Lecturer in - 1 post (full time)
   Sociology
2. Lecturer in - 1 post (full time)
   Electronics
3. Lecturers in - 2 posts (full time)
   Economics
4. Lecturers in - 2 posts (full time)
   Botany
5. Lecturers in - 2 posts (full time)
   Microbiology
6. Lecturers in - 2 posts (full time)
   Mathematics
7. Lecturers in - 3 posts (full time)
   Commerce
8. Lecturers in - 2 posts (full time)
   Chemistry
   (One Physical & One Organic)
9. Lecturer in - 1 post (full time)
   French
10. Lecturer in - 1 post (full time)
    Business Law
11. Lecturer in - 1post (lecture basis)
    Portuguese
12. Lecturers in - 4 posts (full time)
    Computer Science

    For M.A. Department:-
13. **Reader in** - 1 post (full time)
    Psychology
    (Specialized in Clinical Psychology)
14. Lecturer in - 1 post (full time)
    Psychology
    (Specialized in Organizational Psychology)
15. Lecturer in - 1 post (full time)
    Psychology

- Vacancies will be filled in, subject to availability of **workload** and other Goa University/Goa Government **stipulations**
- **For** *Posts* under No 1 to 11, Master's **degree** in the relevant subjects with 55% **marks** or its equivalent grade **and good** academic record.
- For Post under No 12 the candidates **possessing** M.Sc. with Maths/Statistics **with 55%** marks or its equivalent grade **and good** academic record with exposure to Computer Science OR M.E./M.Tech. in Computer Science or Electronics with 55% marks and good **academic** record OR first class B.E./B.Tech. in Computer Science or Electronics with two years experience of teaching/research/industry and **good** academic record, would also be considered
- For *Posts under* No 13, 14 & 15 the candidates should hold Ph.D. Degree or its **equivalent** qualifications
- Candidates should have cleared the NET/SET. In case candidates with NET/SET are not available, candidates otherwise fulfilling all **other** conditions would be considered.
- Scale of pay and service conditions **as** prescribed by the University/U.G.C./Government of Goa.
- Persons already employed shall **send** in their applications through **proper channel**. Certified copies of **statements** of marks at all public **examinations** should be enclosed
- **Applications** with relevant details **should reach the** Principal, St. Xavier's College, **Mapusa**, Goa, 403507, within 15 **days from the date** of publication of **this advertisement**. Applications with **incomplete data will be rejected outright.**

Mr. Newman Fernandes
PRINCIPAL

NATIONAL INSTITUTE OF TECHNOLOGY

ROURKELA-769008 (ORISSA)

DEEMED UNIVERSITY

ADMISSION TO MASTER PROGRAMME IN TECHNOLOGY, M.C.A. AND SCIENCE COURSES

Applications are invited for admission to Master Course in the following fields of study leading to M.Tech. (Regular), M.Tech. (Part-time)/M.C.A./M.Sc. (Physics, Chemistry and Applied Mathematics) degree for the session 2003-2004.

1) **M.Tech. (Regular) Two years duration** : (A) Chemical Engineering - Coal Chemicals and Fertilizers (B) Civil Engineering - (i) Soil Mechanics and Foundation Engineering, (ii) Structural Engineering, (C) Electrical Engineering - Electronics System and Communication, (D) Mechanical Engineering - (i) Machine Design & Analysis, (ii) Production Engineering, (E) Metallurgical & Materials Engg. - (i) Ferrous Process Metallurgy, (ii) Industrial Metallurgy, (F) Computer Science & Engineering - Computer Science, (6) Applied Electronics & Instrumentation Engineering - Telematics & Signal Processing (Self Financing Rs. 41,000/- p.a.).

2) **M.Tech. (Part-time) Three years duration** : (To be offered at the discretion of the authority depending on the response. Candidates are advised to contact Heads of the Engineering Departments concerned). Applicable to all disciplines except Telematics & Signal processing and Chemical Engineering.

(i) **For M.Tech. (Regular) NON-SPONSORED candidates** : Scholarship will be given to GATE qualified students as per availability. When GATE qualified Students are not available, admission may be given to other candidates on merit basis.

(ii) **For M.Tech. (Regular) SPONSORED candidates** : Minimum 55% marks in qualifying examination and Two Years full time work experience in a registered Industry/ Company / Educational or Research Institution / Government Department / Government Undertaking / Autonomous Organisation, or under registered contractors with no trading activities (only for Civil Engineering) in relevant field. Must produce sponsored certificate with application.

3) **M.C.A. (for 15 seats for outside state - other than Orissa).**

4) **M.Sc. (Two years) (Annual System) : Eligibility Criteria**

M.Tech. : Pass BE./B.Tech. in respective discipline or any other examination recognised by Academic Committee as equivalent thereto. (For M-Tech. in Computer Science & Engineering, B.E./B.Tech. in any discipline or M.C.A. recognised by Academic Committee after B.Sc. with Physics, Chemistry and Mathematics), OR any professional examination recognised by Academic Committee as equivalent to B.E./B.Tech. with 55% of minimum marks in aggregate.

M.C.A. : Degree in Science, Commerce, Arts & B.C.A. Commerce and Arts students should have studied Mathematics and Statistics in their +2 level.

M.Sc. : (i) B.Sc. (Hons.) in respective discipline with minimum 50% marks or any examination recognised by Academic Committee as equivalent thereto.

(ii) Special Papers : Physics - X-Ray/Electronics, Chemistry - Inorganic/Environmental Chemistry, Applied Mathematics - Algebraic Topology/Fluid Dynamics/Operation Research/Graph Theory and Combinational Optimisation.

5) Reservation of seats for SC/ST candidates are available as per rule.

6) Prescribed application form and prospectus can be had either by person or by post from **DEPUTY REGISTRAR** on written request by enclosing a self addressed envelope of size 30 cm x 18 cm with a crossed **Bank Draft of Rs.300/- (non-refundable) in favour of Director, National Institute of Technology, Rourkela**, payable at **SBI, REC Campus Branch, Rourkela-8.**

7) The followings are the scheduled dates for issue and receipt of application forms:

(i) **M.Tech./ M.C.A. Course :** (a) Period of Issue : **26-05-2003 to 26-06-2003.**
(b) Last date of receipt of completed application forms: **10-07-2003.**

(ii) **M.Sc. Course :** Issue and receipt of completed application forms : **26-05-2003 to 31-07-2003.**

The completed application forms along with documents should reach this Office by Registered post / Speed post superscribed as "**Admission to M.Tech/M.Sc/M.C.A, Course**" on the top of the envelope by the above stipulated date.

Candidates who have appeared at the qualifying examination may also apply. Candidates seeking admission to more than one course, may apply separately for each course.

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